

**The Study of Online Danmu's Television Use:**

**From the Audience's point of View**

A Thesis Submitted to the Faculty  
of Drexel University

by

Xiaojing Fang

In Partial Fulfillment of the Requirement of the Degree of

Master of Science in Television Management

January 2016



## **ACKNOWLEDGEMENTS**

This thesis would not have been possible without the love, support, and encouragement I received from my parents. Only now am I beginning to realize how much my parents sacrificed so that I could go for my masters. I do not have words to adequately describe my deep gratitude for all they have provided me.

I would like to thank all the persons who contributed to the production of this academic work namely: The media specialists and professionals who agreed to collaborate on this work - My thesis advisor Lydia Timmes for his precious remarks. I also owe special thanks to my academic advisor and Head of the Television Management Program Albert Tedesco for his assistance and guidance during all my graduate studies at Drexel University. He made me spend a wonderful stay at the University and keep good memories of life in Philadelphia and the US.

## **ABSTRACT**

The Study of Online Danmu's Television use:

From the Audience's Point of View

Xiaojing Fang

The purpose of this study is to demonstrate how audiences would feel about Danmu- a video add-on service that display audiences' comments as subtitles overlaid on the video, and Danmu's cross-platforms extension to television. The questionnaire conducted with 105 participants investigated Danmu audience's categorization, behavioral, and perceptual characteristics. The interviews were conducted to further illustration of why participants had given certain answers in the survey.

The result suggested Danmu product's inherent limitations constrained its transformation to the television platform. However, Danmu showed its potentials with its user's bases. Hence, if Danmu is put on trial for television use in future, several recommendations were also given in this study.

*Keywords:* Danmu; cross-platform; television add-on

## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS .....</b>	<b>ii</b>
<b>ABSTRACT.....</b>	<b>iii</b>
<b>TABLE OF CONTENTS .....</b>	<b>iv</b>
<b>CHAPTER 1: INTRODUCTION.....</b>	<b>1</b>
Introduction.....	1
Statement of the Problem.....	2
Background and Need.....	3
Purpose of the Study .....	4
Research questions.....	5
Significance to the Field .....	5
Definitions.....	6
<b>CHAPTER 2: LITERATUAL REVIEW .....</b>	<b>9</b>
Introduction.....	9
Frequent Audience/Users' Description.....	9
Audience's Preference .....	22
Audience's Loyalty .....	27
<b>CHAPTER 3: METHODOLOGY .....</b>	<b>32</b>
Introduction.....	32
Setting and Participants.....	32
Measurement Instruments .....	34
Data Analysis .....	38
<b>CHAPTER 4: RESULTS .....</b>	<b>40</b>
Introduction.....	40
RQ1: What are the characteristics of Danmu's frequent users? .....	40
RQ2: How Do Audiences Feel About Television Danmu? .....	45
RQ3: Will Danmu Be Able to Generate Retention and WOM from Customer?.....	55
<b>CHAPTER 5: DISCUSSION .....</b>	<b>62</b>
Introduction.....	62
RQ1: What are the Characteristics of Danmu's Frequent Users?.....	63
RQ2: How do Audiences Feel about Television Danmu? .....	67
RQ3: Will Danmu Be Able to Generate Retention and WOM? .....	70
Limitations .....	74
Recommendation for Future Research.....	75
Conclusion .....	76
<b>REFERENCES.....</b>	<b>78</b>
<b>APPENDIX A: DANMU USER SURVEY .....</b>	<b>94</b>

## **CHAPTER 1: INTRODUCTION**

### **Introduction**

As 21st Century society moves increasingly into a digital realm, media users want more ways to connect in a virtual way. Danmu is a real-time commentary services carried through subtitle that display users' comments as streams of moving subtitles overlaid on the video playback screen (IMA, 2014). Some video sharing websites have attached this service to create a conducive environment for users that can enable them to send their comments during watching. Websites Bilibili and Acfun were the pioneers in online Danmu business, and their users have increased rapidly in the past few years. In addition to that, these websites have not only integrated Danmu to provide services on desktop but have also extended Danmu service to mobile devices.

Danmu features were growing so fast that some researchers started to notice its future market potential. Some movie distributors tried to take advantage of this add-on services to enhance the theatre-oriented elements of their work. And it turned out to be favored by audiences. The successful big screen trial introduced another possibility that Danmu might also succeed in other cross-platform extensions, and in this study, the focus is on television.

On the other hand, when it comes to television, the Internet is posing challenges for the traditional linear television industry. Insiders have tried adjusting broadcasting networks to suit dynamic markets. With the fact that the world of television is now trying different methods to retain its audience, Danmu could be a possible approach for the same.

Supply and demand are the main aspects when evaluating a market. The supply in this study, which revolves the television programs, is unlimited to a certain degree<sup>1</sup>. Therefore, the demand generated will decide the potential of this cross-platform extension. Under these circumstances, Danmu users and television audiences are the groups that might help determine the potential of Danmu television extension.

### **Statement of the Problem**

This study sought to explore how audiences would feel about Danmu' cross-platforms extension to television. This involved the following three areas:

**Area 1: Audience's' Characteristics.** Understanding who the customers are will be first step to evaluate a product from the perspective of the customer. Danmu is a feature that is attached to online video-sharing services. Because Danmu was originally used on computer platforms, some researchers assumed that Danmu's frequent users might belong to the young generation (Chen & He, 2014; Chen, 2014), especially the college students, because they form the group that uses Internet the most (Zhou & Zhang, 2015). And since Danmu was originally targeting animation fans, some researchers claimed that Danmu might be more attractive to animation followers as well as the male population (Jiang, 2014; Songsong Chen & Ge, 2014; Chen, 2014; Song, 2016; Liu, 2016). However, when discussing whether online Danmu service should be extended to the television platform, exploring how users on these two platforms are related is needed.

**Area 2: Audience's' preference.** Understanding customers' attitude to the Danmu product will be important to evaluate the potential of product extension. Audience's preference

---

<sup>1</sup> The supply of TV Danmu refers to the videos that Danmu can be attached to, which is television programs in this study. Considering the a great amount of existing and developing television programs, the supply of TV Danmu is unlimited to certain degree in this study.

entails how they feel about the TV Danmu product, and what it is that they would like to watch. Danmu websites like Bilibili and Acfun have been growing rapidly in the past few years. Hence, some researchers suggested that Danmu users might enjoy this feature (Li, 2013; Limandemi, 2015). However, it is still unclear whether the audiences will feel the same way when the Danmu service is transferred to the television platform.

**Area 3: Audience's' loyalty.** Audience's' loyalty indicates the life-time value a product exercises on its customers (Robb, n.d.; Reichheld, 1990). So this study sought to explore whether TV Danmu will enjoy audience loyalty. In the meantime, some researchers argued that the product retention rate and the potency of the word-of-mouth advertising can indicate whether a product is able to generate customer loyalty. However, the rate of retention and the advertising through word of mouth (WOM) that online Danmu product are having was unclear. So more studies on these ratios were needed to evaluate TV Danmu's long-term development prospects.

### **Background and Need**

The first area of this study is the audience's' characteristics, and the study focused on the links between television audiences and online Danmu users. Based on prior studies, television has shown some audience demographic skewing. Some audience's' reports suggested that television audiences were getting older (Sternberg; 2015). And some researchers suggested that less educated and unemployed audiences watched television more (Gauntlett, 1990; Allat & Yeandle, 1992; Lahart & Zhao, 2010). More than that, the rating record also indicated that females watch television more than males (Pew Research Center, 2012). In the meantime, there were guesses that Danmu's frequent users might belong to the young generation, and that most of them might be college students. This assumption further suggested that Danmu users might be able to fill the television audiences' gap. But because of the anonymity that characterizes the

Internet, without sufficient data to backup this assumption, it was still not enough to build the links between television audiences and Danmu users.

The second area of this study was to find out how television audiences feel about Danmu. In context of the Danmu product, past studies have suggested that audiences might have noticed some upsides and downsides to Danmu. For television, some add-on features were put into trial. And these features shared some similarities with Danmu, which was favored by audiences. However, there was still a gap between the television audiences and the Danmu feature itself. More studies were needed to show how television feels about Danmu.

The third area is the audience's' loyalty. Prior studies have shown the importance of customer loyalty, and thus, television will benefit from the increase in customer loyalty. On the other hand, some researchers have also suggested that Danmu can engage customers more, which is one of the factors leading to the generation of more customer retention and WOM. However, while Danmu product's current retention and WOM are still missing, there is still not enough evidence to reach the conclusion that TV Danmu will succeed. Moreover, understanding what factors could help Danmu garner more loyalty may also determine the best approaches for TV Danmu to adopt.

### **Purpose of the Study**

The purpose of the study was to use customer surveys and interviews to test customers' attitude toward TV Danmu with the ultimate aim of evaluating the potential of extending Danmu service to the television platform. To measure the general television audience's perspectives on Danmu on TV, the researcher conducted a survey with 105 participants. The survey contained 13



questions, testing audiences' categories, behavior, and perceptions characteristics. Cross-tab comparisons were also involved to see how different factors were related to each other.

In order to complement this research, interviews with a sample population comprising 19 was conducted to explore to explore how television audiences think about the Danmu product, and how they interact with it. Through this study, the researcher expected to determine whether Danmu will be succeed on the television platform. Another goal of the study was to find out the best approaches for TV Danmu to employ.

### **Research questions**

The following three research questions were addressed by this study:

RQ1: What are the characteristics of Danmu's frequent users?

RQ2: How do audiences feel about television Danmu (TV Danmu)?

RQ3: Will Danmu be able to generate retention and word-of-mouth advertising from customers?

### **Significance to the Field**

Danmu has been developed at a rapid speed in the past few years, and hence, the cross-platform extension started to come into the public eye. The result of this research can guide both the television aspect and online Danmu aspect to help decide whether TV Danmu is deserving of the efforts being invested, as well as help those companies understand what their customers are thinking and how they are behaving.

Although the participants from the survey and interviews believed there were some benefits involved in using the Danmu service, there was an overall low willingness to see this extension to the television platform. This was mainly due to the Danmu service being a product

that requires a certain level of cultural understanding to get adapted to, which creates inherent entry barriers. This study could contribute greatly to the existing literature in this field because it will allow future researchers when they continue analyzing the technology and look for the right method to lower the entry barriers experienced by the Danmu product.

## **Definitions**

**Danmu:** literally means "bullets" in Chinese, referring to real-time commentary subtitles that display user comments as streams of moving subtitles overlaid on the video playback screen, visually resembling a shooter game.

**Online Danmu:** In this study, this refers to the commentary video website that incorporated the Danmu feature. It is a new online video sharing form that is based on Adobe Flash Video and HTML 5 technology in order to display users' submitted videos that are hosted by third-party sources with viewers' comments sliding as subtitles on the videos. Such subtitles are simultaneously broadcasted to all viewers in real-time, creating a chat room experience in which users feel like watching and playing together with others.

See Figure 1, the texts in color that on the top of the video are Danmu. The text on the right with time marks are all the Danmu attached to this video get laid out chronologically.



Figure 1. Example of a Danmu video page. Screenshot of video “2 Broke girl” from Bilibili.tv

**Bilibili:** This is a video-sharing website themed around anime, manga, and game fandom based in China, where users can submit, view, and add commentary subtitles on videos. **Acfun:** Similar to Bilibili, this is another Danmu video-sharing website based in China. Bilibili and Acfun were the two main websites that provided Danmu videos, but recently, main video sharing websites like Tudou have started to add Danmu to their videos now.

**TV Danmu:** TV Danmu is a hypothetical product that has been conceptualized from the online Danmu product. The idea of adding Danmu on television was introduced when Hunan TV, one of the Chinese leading television station, mentioned the multi-platform business plan in 2014 (qq.tech, 2014). Just like online Danmu, TV Danmu will allow television audiences to send their comments and display them on the television screen. Because TV Danmu is only an incomplete idea, there are more details needed for further research, such as how the Danmu will be sent (mobile or other device?) and who is to be in charge of displaying these comments (TV content provider or service provider?),..for a few to name.

**Customer Retention:** This refers to the number of customers that companies can retain, and the ratio of customers who come back to a product or a service. The goal of customer

retention programs is to help companies retain as many customers as possible. Churn rate is the opposite of retention, which means the magnitude of customer attrition.

**WOM:** Word of Mouth, is the passing of information from person to person through oral communication. In this study, it stands for one customer's willingness to recommend a product or service to the people they know.

**Well-educated Audience/ Employed Audience:** Well-educated audience in this study refers to the audiences that have received higher education, which is college or equivalent education. **Employed audiences** refers to the audiences that either working for wages, or having full-time job with steady income.

## **CHAPTER 2: LITERATUAL REVIEW**

### **Introduction**

The literature will address three areas of research related to how audiences react to Danmu in terms of the practicability of having Danmu on TV platform. In the first section, there will be comparisons between Danmu frequent users and TV frequent audiences. This section will discuss the links between the descriptions of the two above-mentioned groups. In the second section, research works related to audience preference for television add-on features will be addressed. In this section, two existing prototypes that are similar to Danmu will be introduced along with the audience's' attitude to them. Finally, the last section will focus on research works based on audience loyalty. The significance of loyalty, how loyalty was built and how it related to the product expansion will be addressed.

### **Frequent Audience/Users' Description**

**Who are Danmu's frequent users?** Danmu became popular on a Japanese website called Niconico. It made its way to China, where it started out as a subculture phenomenon for fans of Japanese anime and games (Okamoto, 2014). Now it has entered the mainstream culture in both the countries. Several researchers have demonstrated how Danmu has helped many online-video-sharing websites grow. According to Zhihao Ma & Jinping Ge (2014), video-sharing websites Bilibili and Acfun have attracted increasing attention in the past four years. Bilibili, founded in 2009, was a sub-station of Acfun. According to ALEXA analysis, a company that provides analytical insights for benchmarking, comparisons, and optimizations of businesses on the web, Bilibili's Page View per day (PV/day) increased from 50 daily reaches per one million in 2010 to a peak of 170 daily reaches in 2011. Even though there are limitations

involved in becoming a member of Bilibili, to enable the Danmu feature, Bilibili generated 40 million PVs from September to November in 2014. The increase in page views indicated its increasing number of users (Ma & Ge, 2014). Additionally, Bilibili's predecessor, Acfun, was purchased by Alpha Animation, one of the biggest Chinese animation and toy companies. While the capital operation is getting more involved with Danmu, Cong Zhang & Xin Chang (2014), who is researching on Bilibili's social influences, claimed that Danmu website audiences would keep growing in the next few years.

As Danmu product is developing, many researchers have studied on its users. According to the prior studies, following are the characteristics of Danmu frequent users:

***Danmu users are young generation.*** Danmu users were generally believed to belong to certain age range, and several researchers has indicated young adults and adults as being the main users of Danmu (Chen, 2014). According to Songsong Chen & He (2014), Chinese Danmu websites' primary users are people with ages from 18 to 30. Sohu.com posted the interview with Rui Chen (2016), the Executive Director of Bilibili, his answer supported this finding by mentioning that 75% of Bilibili's users belong to the 90s generation (similar range as Millennial generation). Jie Luo (2016), reporter in Southern Weekly, one of the leading magazines in China, interpreted the data that 87% of Danmu users are under 30, and that 73% are under 24 years of age.

***Students used Danmu a lot.*** According to CNNIC's *Chinese Annual Internet Use Report* in 2015, students formed the biggest group among Chinese internet users, amounting to 24.6%. Usage from the employed population amounted to 16.3% (CNNIC, 2015). Under these circumstances, Songsong Chen (Chen & He, 2014) claimed that because most internet users in

the 18–30 age group are students in school, there are high possibilities that Danmu's frequent users are students as well.

In the meantime, Tingting Zhou's (Zhou & Zhang, 2015) study on Chinese college students' internet usage also supported this idea. She distributed a questionnaire among college students from the Henan University, China (N = 205). According to the results, 53.11% of the participants said that they spent over 5 hours on online videos every week, and 19.62% said they usually use Danmu websites to watch videos. However, Zhihao Ma (Ma & Ge, 2014) also admitted that because Danmu itself is pseudonymous, so it was difficult to give a concrete definition on the users' occupation.

***Males are more than females.*** Song, reporter from Southern Weekly, claimed that 63% of Danmu's users are young males who are obsessed with anime and manga (Song, 2016). Airing, an anonymous web developer, performed a website scraping for Bilibili, and captured around 2,000,000 active users' data. The users who registered from 14:06:54, June 24, 2009 to 21:04:52, February 18, 2016 were captured. Among all the users who have identified their gender, 44.58% of them were female, 55.42% were males. However, because Danmu users are pseudonymous, 11,621,898 out of 14,643,019 valid data's gender (almost 79.1% of total valid data) was not identifiable. In the meantime, Liu (2016), a member most well-known community of product managers in China, PMCAFF, did a product analysis on Acfun. Among all the active users, 12% of them are female users and 88% are male users. All the above-mentioned studies showed the trend of male users being more than female users on Danmu websites.

***Animation fans are the main users of Danmu.*** Han Xue Jiang (2014) traced back Danmu's origin in her thesis, "*The Research of Barrage Video from Communication Vision*", to the two biggest Danmu websites in China, Acfun and Bilibili, which initially targeted animation,

comic and videogame (ACG) lovers. Yue Fei Ma (2015) also claimed anime lovers as being the main users of the Danmu website. Because animation in China is still a developing industry, researchers such as Han Xue Jiang (2014), Songsong Chen & Ge (2014), and Xiyuan Chen (2014) have demonstrated Danmu as a subculture favored by the niche network community.

As a product that originally served niche market, Danmu generated fan effect on the accumulate revenue. Henry Jenkins (Jenkins & Ford & Green, 1992) discussed the “participatory culture”, which entails the cultural production and social interactions of fan communities.

Related to Danmu, ACG lovers form one kind of fan community. According to Jenkins, the fans tend to deploy media production more to serve their collective interest. And their actions engage more participation, which are different from regular spectatorship (Jenkins, 1992). According to the product analysis ran by Analysys International (Analysys International, 2015), the leading Danmu website Bilibili mainly generated its profits from different kinds of fan activities. These activities including crowd funding for the purchase of the license for popular Japanese animations, sharing traffic with mobile games, and hosting offline fan conferences. Yang Yu, the Vice President of the Game department in Bilibili, mentioned this in his interview during the ChinaJoy conference (2016):

“Animation fans are the main users of our service. One of their characteristics is if they like something, they will be willing to invest on it. They stayed average 3-4 hours every day. And compare to other users, Animation fans is the most active users on Bilibili.” (Yu, 2016)

**Who are TV frequenting audiences?** Although different countries’ TV markets have their own characteristics, there are some common tendencies observed worldwide. Both the American market and the Chinese market have showed that their audience following display skewing traits.



***TV audiences is getting older.*** Several studies showed that TV audiences have been skewing towards to older demographic in the past 20 years. According to Steven Sternberg (2015) from MediaPost, in 2015, broadcast median ages were 59 for CBS, 54 for ABC and NBC, 49, and CW at 44 for CW. Roughly, 45% of all ad-supported cable networks measured by Nielsen have median ages of 50 or higher. Compared to the data from Meredith Blake (2014), Los Angeles Times, the most-watched scripted series in the 1993–94 season was "Home Improvement," with a median viewer age of 34. Twenty years after, today, it's "NCIS," with a median viewer age of 61 (Blake, 2014).

This skewing can be seen more clearly when compared against the usage of traditional TV by age groups. According to the data generated from MarketingCharts (see Figure 2), audience aged over fifty form the group of audiences that kept watching traditional TV the most (Lupis, n.d.).

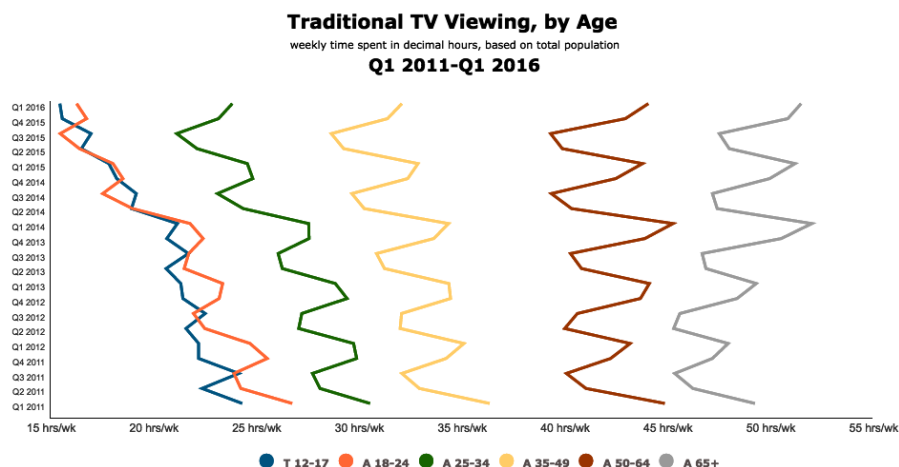


Figure 2: *Traditional TV Viewing, by Age*, data generated from MarketingCharts

MarketingChart also stated that Teens (12–17) watched 15 hours and 29 minutes of traditional TV per week in Q1, with a rather large 13.3% drop year-by-year and a 36.4% contraction over the past 5 years. Similar to the trends observed in terms of teen audience, older Millennials (25–34) watched 23 hours and 26 minutes per week in Q1, with a modest 3%

decrease year-by-year, but a more expansive 21.9% drop over 5 years (Lupis, n.d.). All these studies have suggested that the senior audiences are becoming the major and frequent audiences of TV and traditional TV is losing young audiences.

Chinese TV is also in a similar situation as American TV. According to Italian Trade Commission's China Television Industry Market Report (2011): "The daily average time spent watching TV is around 2.3 hours for viewers aged 15–24; the number of hours increases steadily with age, and those aged 45 and above watch an average of 4 hours per day." This indicated that currently, older audiences watch more TV than younger generation in China.

*Unemployed and relatively less-educated audiences are more addicted to TV.* Several studies have suggested that TV is more attractive to the unemployed and less-educated people. Therefore, more of them became TV-frequenting audiences compared to other demographic groups. According to Gauntlett (1999), unemployed adults spend more time on TV. He cited the study that conducted by Allat and Yeandle (1992), and it found out that TV could provide an external structure to the day of the unemployed youth. A young diarist, who was aged 19–24, stated that TV was her main source of entertainment and companionship. In the meantime, TV also showed special importance as a relatively cheap source of entertainment for the older unemployed adults (Gauntlett, 1999). According to Justin Lahart and Zhao (2010) from The Wall Street Journal, his research backs the theory that unemployed audiences spend more time on TV. In the two years through 2009, the rising unemployment has left Americans with more spare time on their hands, which lead to an average rise of 49 minutes a day spent on watching TV (Lahart & Zhao, 2010).

Compared to print media, American TV audiences showed a relatively low-educated pattern. According to the data from Pew Research Center website (2012), only 9% of CNN's

regular audience, 26% of MSNBC's audience, and 24% of Fox News's regular audience completed college. Regular viewers of daytime talk shows are less educated than the public as a whole. Among this group, just 19% have four-year degrees, 26% have undergone some college education, and 54% have a high school diploma or some such lesser-valued education. On the other hand, nearly two-thirds (64%) of the regular readers of magazines such as the New Yorker, the Atlantic, and Harpers are college graduates, as are 63% of readers of the Economist and Bloomberg Businessweek.

Even though the watching habits were different, Chinese audiences also showed the same pattern as that of America's. According to Jiao Mo (2011), the total monthly share of highly educated audiences was lower than that of the less-educated audiences. Taking China Movie Channel as example, their share in lower-educated demographic was more than what was seen among the higher-educated demographic, with the 10-12 pm timeslot being the only exception (Mo, 2011). According to Italian Trade Commission's China Television Industry Market Report (2011), TV viewing in the rural areas comprise areas that are commonly considered as lower-educated districts, and they are a key driving force for the TV industry.

***Female watch TV more than male.*** According to the news release from U.S. Department of Labor, women spend almost 40 minutes more than men every day on watching television straight – 4 hours 11 minutes for women and 3 hours 34 minutes for men were the calculated statistics (U.S. Department of Labor, 2016). Ingrid Lunden (2012) also demonstrated that when it comes to TV usage, women watch significantly more TV than men do, and the sports programs were not counted to arrive at this statistic. James Poniewozik (2011) demonstrated the situation with primetime broadcast network television: women have been the majority of the big mainstream-network audience for a long time now, “and that is only becoming truer as men—

especially young men—are peeled off from the audience by things that are not TV.” He also referred to the several cancelled shows that indicated the turnover on male audiences. For example, the remake of *Charlie’s Angels*, which premiered on ABC in 2011, was cancelled only after 4 episodes. While *Angels* is seemingly targets men, female viewers ranging 1849 actually outnumber their male cohorts by a 3:2 ratio. Poniewozik (2011) considered this as a sign signifying that the TV’s audiences are leaning on female audiences, especially during the prime time.

China has a similar situation as the U.S. According to the Yiyang Huang’s (2016) First-half-year Primetime Rating Report on 2016, during Chinese satellite TV prime time (19:30–21:20), female audiences comprised as much as 54% of the total audiences, and males were around 46% (Huang, 2016). Zhi Feng Hu (2013) also backed up this theory. He demonstrated that in relative numbers, females watch TV more than males with the consideration that the female and male ratio was 136:100 in China on 2011 (Hu, 2013).

***Drama/Comedy is the most watched genre in China.*** In China, according to the *Internationalization of the Chinese TV Sector* (Kops, 2007), TV programs were generally categorized into drama/comedy, variety shows (entertainment shows), news, animation, sports, and traditional opera. Many researchers believed that drama/comedy is the most favored genre in China. It must be noted here that unlike in the U.S., the drama and comedy fall under the same category in China, and the shows are usually 45 minutes long.

According to the prime time rating on July 24th 2016 (all the data mentioned in this paragraph generated from tvtv.hk, Chinese TV networks’ rating post board), the highest-rated 25 shows were all dramas. For nationwide satellite TV, dramas helped generating 39.5% of the rating countrywide, followed by variety shows with 7.0%, showing drama to be the first popular

genre. For local television channel, drama, news, and informational programs were the first three highest-rating genres. In general, Chinese TV drama have always been the dominant programming in the TV market. During the 18:00-24:00 time period, market share of the Chinese drama is over 80% nationwide. Among all the genres offered, television serial dramas remain the ones with the highest broadcasting and viewership ratings across China (data generated from tvtv.com, 2016).

**Connections between Danmu and TV on the audiences' side.** The rapid rise of time-shifted viewing decimated TV ratings in the past few years. Because the task of advertising is to draw more attention to something, advertisers for prime-time programs demand large audiences. Under this circumstance, television programmers have been trying to attract as many people as possible by airing programs that appeal to a broad audience. While TV audiences showed some shifts that have been mentioned in the earlier sections, Danmu might showed the possibilities of helping TV networks achieve this goal. These potentials can be determined through two aspects: the balance in audiences' demography and program balance.

***Audiences' demographic balance.*** Television audience has showed the trend of skewing toward an older demographic. But younger audiences are also valuable to TV, and Danmu showed the ability to attract young generation. From the advertiser's point of view, one of the reasons that young audience is important is because the content of advertising has strong influence on youngsters (Hu, 2014). For both advertisers and TV programmers, Hu also considered that the cultivation process would be easier when affecting younger people. The older generation will feel a greater degree of cultural and psychical shock (Hu, 2014). Because the younger generation has a more open mind, it will be easier for advertisers to get their information through to them.

With the rising importance of young audiences, TV networks have tried different ways to draw more young audiences back to TV. Since the 90s, some local television channels used younger anchors to attract younger audiences to their News program (Brown & Lee, 1998); the KCPQ/13 station in Seattle tried to engage more audiences through Tweetup events (Levesque, 2009). The PGA Tour tried to lure younger fans by offering content that can be shared on Facebook (Ralph, 1998). Along with all these plans, the incorporation of Danmu into the TV platform was mentioned by Mikitani, Japanese businessman and the co-founder and CEO of Rakuten, in his interview (2014). According to Mikitani, regardless of whether the Niconico format<sup>2</sup> is the best option for TV, it is definitely interesting to watch because it is interactive (Mikitani & Mikitani, 2014). This being said, if Danmu is indeed attractive to young audiences, Danmu might be worth to try on the TV platform.

Besides reaching more age groups, Danmu may also help TV by attracting more higher-educated audiences. From previous discussions, some studies have suggested that college students might be the main users of Danmu. In the meantime, they all fall into the well-educated group that tends to comprise the light TV viewers. According to Hammer, these higher-educated people are highly desirable audience for marketers (Hammer, n.d.). Melanie Ceber (Ceber, Sharp&Kennedy, 2013) used several studies to show that light TV viewers react more positively to advertising. For example, Ceber (2013) quoted Byfield's study (2000), which found that compared to heavy viewers, light TV viewers have higher possibility to pay attention to TV ads. Because heavy users had higher involvement with TV programs instead of ads. Light viewers are also less motivated to skip ads when using a personal video recorder in comparison to heavy viewers (Byfield, 2000, as cited by Ceber, 2013). Ceber also mentioned another study conducted

---

<sup>2</sup> Niconico format: Niconico is the original Danmu website that based in Japan. The Niconico format that Mikitani mentioned here is the same format as Chinese Danmu.

by Roberts (1999), using single source data, found that light TV viewers are more responsive to advertising than heavy TV viewers when the level of exposure is held constant among the two groups (Roberts, 1999, as cited by Ceber, 2013).

In addition to their positive reaction to advertisements, higher-educated individuals will have lower pressure when they face cultivation than those with lower education (Hu, 2014). This means that when facing the process of delivering message to audiences, it could be advertisements or any other kind of information, higher educated audiences will be faster in interpreting it. With the importance of well-educated audiences for TV, as found in the previous studies, Danmu has been demonstrated the potentials of attracting them. So if Danmu is truly attracting well-educated groups, then it might be a helpful function that television can try to add on.

Except the well-educated audiences, TV has been trying to attract more employed audiences. This is because commercial TV's revenue is largely decided by how much they can charge from advertisers (Zipin, 2016), and advertisers are willing to pay more to catch the attention of employed audiences. The reason why advertisers are willing to pay more for employed audiences is because they are considered to have a certain level of purchasing power (Teixeira, 2014). On the other hand, unemployment creates the lack of financial stability (Irons, 2009), which in turn leads to limited purchasing power. Taking a look at the current TV industry now, unemployed audiences watch TV more than employed individuals. Brittany Hughes (2015) used the survey conducted by Bureau of Labor Statistics (BLS) in 2014 to demonstrate that unemployed people in the United States watch about 90% more television (Hughes, 2015). This encouraged TV networks and stations to expand their programs or try other new approaches to attract more customers.

However, all the past studies only suggested Danmu as a trend. Not much data was collected from Danmu users. Even though some web developers have done website scraping for the websites; however, because Danmu is pseudonymous, the user's information collected from the websites may not all be true. The skewing due employment status, education level, and the gender still needs to be tested in real life user samples.

***Programs balance.*** Balancing the programs is another approach that TV has been working on in order to alter the audience's skewing situation. As drama/comedy genre has been dominating Chinese prime time schedule for years, the market is showing the trend of getting saturated. Variety shows and animation are considered to be the next two potential TV genres to change this situation. Variety shows have experienced several booms, and they are coming close to the second most popular type of television entertainment. Animation, on the other hand, is still developing compared to variety shows. But with the support from the government and industrial transformations, many broadcasting companies have recognized its potential on the television platform.

Although animation has been a niche market in China, but it is growing. According to Minghuan Yang (2007), animation has been considered as one of the industries with the most potential in the 21st century. According to Weidong Chen (Chen, 2014), Chinese animation has been developing in this decade with the help of the large population and government support. This development is also reflected on the shift of audiences. Chinese TV cartoon programs used to target children, but it started to produce more programs for young adults (Chen, 2014). In 2004, Shanghai Active Cartoon TV was launched and it targeted audiences aged 24-35. In 2006, a show called *Dong Xi Dong Man She* was bought by 10 different provincial stations, and it target audiences 12–30. That is to say, television has been focusing more on developing the



animation genre. Danmu users, who were considered as animation fans, would be valued in the future.

In meantime, the variety shows market is growing as well. Recently, variety shows have been seen as dominating prime time television in China (Li, 2013) (Drama/comedy is still the first place in 24 hours). Most of these variety shows were produced by the networks, and TV stations have more control on the content. Hunan TV, one of the leading satellite TVs in China, produced almost all the variety shows by themselves (Qin, 2016). In addition to that, variety/reality show can also trigger the most amount of social interaction. In the U.S., according to Nielson's social content rating, among the weekly top-ten series and specials in the August 17, 2016, four of them are reality shows- *The Bachelorette* assumed the first place, other three were different episode of *Big Brother*. The rest are special events, and only one was drama, namely, *Pretty Little Liars* (Nielsen social report, 2016).

As the television recognized the importance of animation and variety shows, there were more studies needed to be done in order to decide whether Danmu is useful for television. How Danmu users think about these two genres needs to be addressed. Although studies have suggested that Danmu users may favor animation, not enough data has been collected from audiences to support this assumption. In addition to that, researchers didn't discuss much about other genres besides animation. Therefore, further study is needed. If Danmu users can show interest in the genres that have been valued by television, then there will be value in applying Danmu on television.

To sum up this section, many researchers have suggested that Danmu users are young, college students (higher educated) and animation fans. On the other hand, television frequent audiences are older, less-educated, and unemployed. This showed that there could be a potential

complementary relationship between television and Danmu. This potential brought the possibility of transforming Danmu to fit the television platform.

### **Audience's Preference**

Danmu websites have developed rapidly, and many users have given positive feedbacks on some aspects. Several users liked Danmu because they found Danmu to be interesting, interactive, and informative. In the meantime, some researchers have also recognized the downside to using the Danmu product that could have probably hindered its further expansion. This new technology was also criticized by several users for being distracting and aggressive.

Many researchers have attributed Danmu's development to the interesting aspects of Danmu. Shen Leping (2014), who won the then State Administration of Radio, Film and Television's best director of animation award in 2012 explained why Danmu was favored by the young generation: "Danmu mainly consists of jokes that fit perfectly with the strong desire of self-expression that people born during the 1990s or in this century now have. They prefer to state their views in a humorous way" (Shen, 2014). Ming He's (2016) demonstration to prove that Danmu can convey interesting information about the content of videos. Meixue Zhan (2014) moved one step forward and demonstrated that entertaining was the initial objectives of the Danmu product (Zhan, 2014).

Apart from the interesting side, some users have enjoyed the communicative side of Danmu. Gao Hanning, a researcher of animation, comics, and gaming subcultures at the Peking University, considered socializing to be the most important function of Danmu (Gao, 2016). Ming He (2016) demonstrated that Danmu can "make viewers communicate with each other in a much more direct way". Cong Zhang (2014) thinks that Danmu has changed the traditional

producer-editor-audiences relationships. This communication enables all the parties to focus their efforts on the final works. Therefore, the roles were not explicitly classified anymore (Zhang, 2014). Some users even said that they enjoy good company rather than the video. Student from Erasmus University Rotterdam (2016) had performed a case study, suggesting that users who have posted comments before would be happy to come back and watch the video again to see how people have responded their comments (Tsekouras & Dellaert, 2016).

Some people also found Danmu to be informative. There were some examples given in the previous studies that explained why Danmu is informative. For instance, in science or history-related videos, Danmu can popularize scientific knowledge or provide background information; in foreign language shows, Danmu can provide subtitles and even explanations and allied information on culture differences. Xueqing Li (2016) also cited the 1980s BBC political satire “Yes Minister”, which can be viewed on video-streaming website, AcFun, as an example. In the episodes, users have added Danmu comments with historical or legal background information whenever the show makes references that might be too esoteric for most to understand.

However, despite its interesting, interactive, and informative parts, Danmu has some negative aspects. Some people have complained that sometimes, there was too much text layered over videos, which made it was too hard for viewers to see the real video content (Limandemi, 2015). Donghao Wu (2012) also supported the criticism that sometimes, Danmu subtitles were destructive, and a large number of them seriously affected normal viewing (Wu, 2012). Besides the distractive aspect, just like other commentary websites, Danmu also has the potential to have some offensive content. The video-sharing website YouTube carries some comments that are

hateful in nature, and some people have asserted that YouTube should eliminate aggressive comments.

On the other hand, Danmu is a comparably new approach as an add-on feature on television. It has not been actualized as of yet. So there are limited studies to shed light on how audiences would feel about Danmu's new transformation. However, there are some existent products that share some similarities with Danmu. How audiences feel about these features may foreshadow the audience's attitude toward television Danmu. Motorola's STV project and AT&T's Collabora TV prototype are the two products that have the most similarities (Cesar & Geerts & Chorianopoulos, 2009). These two prototypes provide text chatting features that are attached to the TV screen, similar to what Danmu is doing with online videos. Experiments on these two prototypes demonstrated the audience's preferences. For example, audiences enjoy having communications while they are watching or streaming TV, and the text chat is the most favored approach (Cesar & Geerts & Chorianopoulos, 2009).

STV3 is one of the prototypes that Motorola lab has run in their STV series experiment. STV3 provides Live TV service with the option to communicate freely integrated. The text chatting feature here is similar to exchanging IMs, with a window at the bottom of the screen that allows audiences to communicate with their "buddy" when they watch TV. The voice chatting, on the other hand, allows audiences to set up a call with people on their "buddy list" (Harboe, Huang, & Massey, 2009). From the field trial, Regan and Todd (2004a; 2004b) reported that 93% of the participants in their study answered that they would like to IM with others while watching TV. In addition, in a 144-people between-subjects lab experiment, Weisz and Kiesler (2008) compared communications using text chats, voice chats, as well as both while watching streaming videos. Text chats did show better performance both in terms of enjoyment and

preference rankings than the other two mediums. Several participants felt that it was easier to use, and that it interfered less with watching TV: “Texting is what I think I’m more comfortable with, and you can pay attention more with the program... and (voice) seems took a little bit more of your attention or focus to make sure that you’re fearing them and responding” (Harboe, Huang & Massey, 2009, p.172).

While STV model has text chatting features that are similar to Danmu, AT&T’s Collabora TV is more allied with Danmu. Asynchronous text chatting is one of the factors that makes Danmu different from other Social TV approaches. Just like Danmu, Collabora TV allows users to create text comments while watching a show. The text is attached to the media stream at the corresponding time index. When other users encounter a certain point in the show that carries a comment, the corresponding comment is displayed on the screen for several seconds (which can only be seen by the people in their friends list) (Amento, Harrison, & Nathan, 2009). According to the field trial that was run by Brain Amento and Chris Harrison (2009), 78.5% of the respondents said that they wanted this service to do a larger extent. One of the characteristic participants said, “the more people and friends there are, and the better the experience” (Amento, Harrison, & Nathan, 2009).

While some social TV products that are similar to Danmu were favored by audiences, the Danmu product itself is also evolving. The latest trial involved putting Danmu into theatre-based usage. According to the THR report, movie theaters in major Chinese cities are rolling out Danmu technology that allows audience members to “send text messages commenting on film, which are projected directly onto the screen” (O’Connell, 2014). The first movie that used Danmu in theater was, “The Legend of Qin 3D Ancient Dragon Spirit”. Danmu was put on the side of the screen (See Figure 3). Thereafter, the movie “Tiny Time” incorporated limited

Danmu usage. Unlike “The legend of Qin 3D”, “Tiny Time” directly overlapped the text on the screen (See Figure 4).



Figure 3. How movie “The Legend of Qin 3D Ancient Dragon” displayed Danmu in theater. Adapted from <http://www.takefoto.cn/viewnews-155625.html>



Figure 4. How movie “Tiny Time” displayed Danmu in the theater. Adapted from [www.news.cn](http://www.news.cn)

Audience's reaction was mixed on these trials. On one hand, Amy Qin, the reporter of New York Times reported that some audiences think it is a good strategy for attracting them to somewhat controversial films (Qin, 2016). Other reports have said that films offering the Danmu feature have been experiencing attendances of 80–90% (Scott, 2014). China Youth Daily (2016) interviewed Mr. Zhang, the manager of Luxin Cinema in Shandong said, "Right now everyone thinks this is pretty novel and pretty cool." However, Mr. Zhang also mentioned that the audiences may like it because it's a new thing. In the long term, Danmu might affect people's concentration (China Youth Daily, 2016). Blaster (2014) and Scott (2014) all argued that the director of the movies may not appreciate this new attached technology as it might detract audiences from their valued works.

To conclude this section we must take into account that prior studies have suggested that the Danmu product itself may be favored by audiences because Danmu is interesting, informative, and communicative. In addition to that, some Danmu's analogs on TV platforms have also tested to be favored by audiences. However, Danmu product and its theatrical trial were also criticized by audiences at the same time. Hence, more research works are needed on this topic to decide whether Danmu would be favored by television audiences or not.

### **Audience's Loyalty**

Many researchers have mentioned the importance of customer loyalty in terms of evaluating the potential of products. Building customer loyalty is important because loyal customers tend to make more than one transactions. The Gartner Group found that 20% of the existing customers generate 80% of a company's overall profits and Marketing Metrics state that the chances of selling to new customers is 5–20%, whereas with the existing customers it reaches

60–70% (Robb, 2015). Some researchers, such as Timothy L. Keiningham (2007), have broken down loyalty into two indexes: the retention and the WOM. Both Reichheld and Zeithaml agreed that loyal customers are reported to have higher customer retention rates, and are more likely to recommend others to become customers of the firm (Reichheld & Earl Sasser, 1990; Zeithaml, 2000).

Retention is one of the indexes with which to evaluate customers' loyalty. In the television industry, Philip M. Napoli (2010) defined the audience's retention in terms of the number of times they watch a specific program. In other words, a retained audience has a relatively longer watching time and higher possibility to purchase again (Reinartz, Werner & Kumar, 2000). Also, in terms of TV product, retained audiences would watch same programs regularly. Gupta & Lehmann (2006) demonstrated a Customer Lifetime Value (CLV) model. In this model, higher the retention rate, the more profit a company can obtain from an individual customer. Webster (2006) explained this idea in context of the TV industry by stating that if a channel or a program can generate higher retention rate from their audience, the more cumulative share the channel could have (Webster, 2006). Reichheld and Sasser's (1990) findings supported his idea, stating that a 5% increase in customer retention could increase a firm's profitability from 25% to 85%.

Another important index for loyalty is the ability of generating WOM. As retention is known to be a behavioral dimension of loyalty, Chatura Ranaweera and Jaideep Prabhu (2003) think that WOM can reflect the affective dimension of loyalty. WOM is important for business because first it entails the customers' trust. Todd Patton used the study done by Goethe University to reveal that people tend to have a stronger attachment to an organization if their friends or acquaintances share a bond with the same establishment (Patton, 2015). Jay Baer



(2015) also shared that 92% of consumers trust recommendations from the people they know directly (Baer, 2015). Besides the trust value of a brand, WOM can also create the buzz (Patton, 2015). Henry Jenkins (2010), “from the word-of-mouth spread recommendations about a brand the passing along of media content that might ultimately drive interest (and traffic) back to a particular destination” (Jenkins, 2010). That is to say, according to Brooks (1957), WOM can create new and massive-level popularity.

With the significances of loyalty, many researchers have suggested that a deep customer engagement is the key to create customer loyalty. According to Napoli (2010) illustration, retention is under the broader umbrella-concept of engagement. He claimed that more the engagement the customers have, the more possibilities there are that the customers will continue their loyalty toward a certain brand (Napoli, 2010). According to Shaista Haque (2015), research works have showed that more than 63% of the organizations said that engagement is manifested through customer retention and repeat purchases. On the other hand, Malcolm Gladwell (2013) mentioned that engendering deep audience engagement might motivate them to share what they learned with others (Gladwell, 2013). Therefore, engagement could increase customer retention rate and WOM.

Hunan TV, one of the leading provincial satellite channels in China, made its big success by encouraging audience engagement. Many programs on Hunan TV succeeded because these programs made audiences feel that they were bounded to the show. Hunan TV's one of the most popular variety shows, “Happy Camp”, was the first program in China that allowed audiences to join in on the live taping process (Zhang, 2013). And audiences were loyal to the program, which eventually helped them become the longest-lasting show in China. It has been on air for 10 years already. Singing competition show, “Super Girl”, also succeed by encouraging audience's

engagement. Audience's text voting could decide the elimination of the show competitors. This interaction helped the final episode of its 2005 season become one of the most popular shows in Chinese broadcast history, drawing over 400 million viewers (Shaw, 2009). In 2014, the multi-platform interaction helped the singing competition show, "I am a Singer", generate the highest rating in 2014 (Hunan TV News Department, 2014).

As Chinese TV has moved to a new stage, more researchers have considered involving more features to reinforce audience's engagement. Danmu, on the other hand, is believed to have provided audience with more engagement compared to solely videos (Ma & Ge, 2014; Gui, 2014). First, according to Yuefei Ma (2014), the audience will feel connected to the people who share the same interests through Danmu. She found out that both uploaders (people who upload their videos on the Danmu websites) and video viewers can feel a sense of belonging when they see comments that they agree with (Ma, 2014). Second, users can express their opinions on the parts they like or don't like in the videos through Danmu (Mei Xie, 2014). Zhihao Ma (2014) has analyzed all the Danmus on the Japanese Animation named "Psycho Pass" (Japanese: サイコパス) on Bilibili. According to his research, audience's sentiments can be clearly represented based on the length of their Danmu and the words they have used in their Danmu comments (Ma & Ge, 2014). Fenshuang Wang (2014) supported Ma's idea that demonstrate that "compared to regular video websites, audiences' responses can be exposed more than usual comments". In addition, in some cases, viewers can even alter the videos' content itself through Danmu comments. Therefore, the audiences are becoming more active and they feel a stronger engagement with Danmu websites (Wang, 2014)

From what has been discussed above, it is apparent that Danmu can deepen audience engagement. And because engagement can generate loyalty, there is potential that Danmu can

help television generate more loyalty from the audiences. While loyalty can be reflected by audience's retention and WOM, Danmu's potential can be tested by these two indexes.

## CHAPTER 3: METHODOLOGY

### Introduction

In this study, a questionnaire survey was used to collect data and follow-up interviews were conducted to provide a deeper understanding of the users' attitude. The Chinese audience was the main concern in this study.

The following research questions were addressed in this study:

RQ1: What are the characteristics of Danmu's frequent users?

RQ2: How do audiences feel about television Danmu (TV Danmu)?

RQ3: Will Danmu be able to generate retention and word of mouth (WOM) from customers?

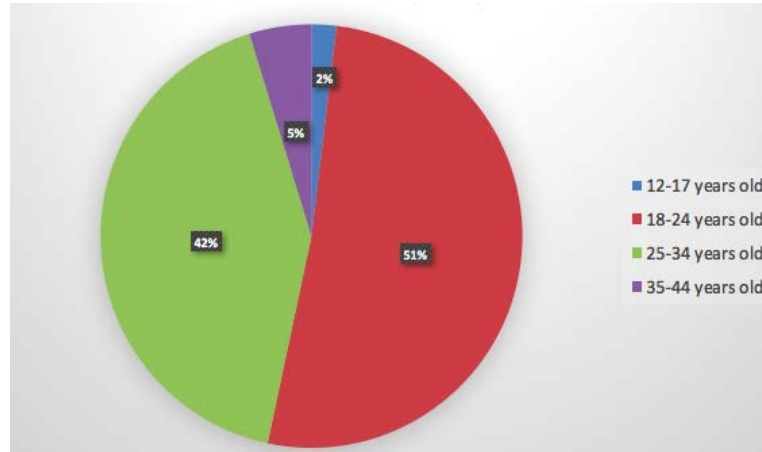
### Setting and Participants

**Questionnaires.** Considering that Danmu is an online video service, an online survey service was chosen to reach more relevant sample populations. The questionnaire was placed into the Chinese online survey service, Wenjuan ([www.wenjuan.com](http://www.wenjuan.com)), and the researcher was given the access to the backend-data of all responses. Wenjuan (Chinese: 问卷网/众言网络) is an online survey platform that is focused on providing questionnaire establishment, distribution, management, collection, and analysis services. Wenjuan was chosen to conduct the questionnaire component of the research because it has China's most active online survey community, and a leading market research management technology platform.

Responses were collected through Wenjuan's paid data collection service, and an upper limit of 105 participants was set before starting the collection. Participants were randomly

selected from the Chinese population who frequent the Internet as everyone could access the questionnaire, and 105 finished samples were collected in two weeks.

There were 67 females and 38 males who participated this survey. Due to the characteristics of an online survey, participants were presumed belonging to age bracket of 12–44. The Figure 5 below shows the distribution of collected data.



*Figure 5. Sample age distribution*

Geographically, the participants came from 23 first-level administrative subdivisions of China – 2 out of 5 autonomous regions (Inner Mongolia, Guang Xi), 4 out of 4 direct-controlled municipalities (Beijing, ChongQing, Shanghai, Tianjing), and 17 out of 23 provinces. Additionally, 102 out of 105 responses were given through the mobile platform, and the other three were given through the computer platform.

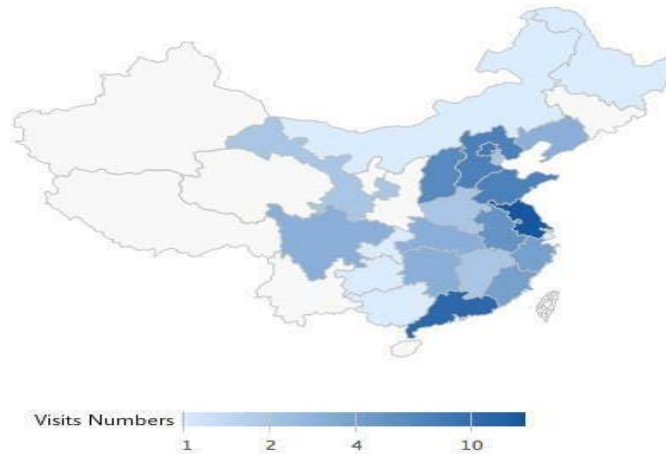


Figure 6. Sample geographic distribution

As for the education level, 60% of the participants had a Bachelor's degree, 17.14% had completed their GED, and 15.24% had received technical training. Participants with no diploma and Masters' degree shared the same percentage, which is 3.81%. Among the 105 participants, 41.9% were employed, 30.48% were students, and 27.62% were unemployed.

**Unstructured Interviews.** After collecting data from the questionnaire, follow-up interviews were conducted to help understand the data better. Interviewees were interviewed through a voice call provided by the WeChat application (Chinese voice messaging service) or through text chatting using the QQ instant message service. Because of the scheduling and accessibility difficulties, the researcher was only able to have around 5-minutes-long short interviews with each participant (on the phone, instant messages took a little longer). A total of 19 participants were selected.

### Measurement Instruments

Two different measurement instruments were used to answer the research questions. The first one was researcher-designed questionnaire. The second instrument comprised follow-up unstructured interviews with the selected cases.

The two measurement instruments were executed in sequential order. First, the researcher issued an online survey and analyzed the collected data. Next, after comparing the data analysis and research questions, the researcher conducted follow-up interviews with the selected participants.

**Questionnaires.** The first measurement was a researcher-designed survey (Complete survey question, see Appendix A). The survey contained 13 questions involving the following three users' aspects: behavior, perception, and category. The behavior-related questions were used to observe audiences' past behavior and what they might do in response to a given assumption. There were five behavior-related questions in the survey, and all of them were close questions. Following are the behavior questions:

Q2: Have you used the Danmu website before?

Q3: If yes, how many times you have used it in the past one month?

Q5: How likely are you to recommend Danmu to others?

Q6: How many times you think you will use Danmu in the following week?

Q7: How long do you watch TV, especially TV shows every day?

The second kind of questions comprised the perception questions. There were four in total, and three of them were close-ended questions. Another set comprised open-ended questions for participants to give details on why they like Danmu and the reasons stating why they don't. Perception questions can be used to observe people's feelings and thoughts, which helps in attaining a better understanding of why they showing specific behaviors. Following are the perception questions:

Q4: Indicate the extent to which you agree with the following statement.

Q8: Please rank the following TV genres from most favored to least favored.

Q9: How likely are you to want Danmu's services on the screen when you watch TV in future?

Q13: Explain what it is you most like about Danmu? What do you dislike the most?

The last type of questions revolved the aspect of category, representing the nature of participants in terms of age, gender, education level, and occupation. Following are the category questions:

Q1: Gender

Q10: Age?

Q11: Education

Q12: Employment status

Users' choices were given in various ways that were taken into account to analyze the data. Close-ended questions can be divided into multiple-choice questions, rating-scale questions, and ranking questions. In addition to the close-ended questions, comment boxes were given for the open-ended ones.

**Unstructured Interviews.** The second measurement instrument was unstructured interviews, conducted with participants who were selected from the survey. The interview was conducted as a supplement to answer the research questions. Following is the layout of how the interview topic areas related to the interviewees' selection:

Table 2: <i>How interview topics related to RQs and the choice of interviewees</i>		
RQs	Topic Areas	Interviewee Descriptions



Q1: What are the characteristics of Danmu frequent users?	<p>1) What's your favorite TV genre and what do you usually like to watch on Danmu websites?</p> <p>2) Why do you like to watch this specific genre on the Danmu websites?</p> <p>3) Why do you agree/not agree to those perception questions?</p>	Unwilling users*
RQ2: How do audiences feel about television Danmu?	<p>1) Why you do not like online Danmu?</p> <p>2) (For those who showed positive sentiments toward Danmu) Why do you do not like Danmu on TV? What are biggest challenges for TV Danmu?</p>	<p>Frequent users*</p> <p>Unwilling users</p>
RQ3: Will Danmu be able to generate retention and word-of-mouth advertising from customers?	<p>1) How long have you been using Danmu?</p> <p>2) Why did you stop using Danmu? What feature of Danmu encouraged you to stay?</p> <p>3) Will you recommend Danmu to others? Why?</p>	Frequent audiences
<p><i>*Note.</i></p> <p>1) Unwilling users: Participants who gave lower than 3 points when answering Question 9 (How likely are you to want Danmu services on the TV while you are watching) were considered as "Unwillingness Users"</p> <p>2) Frequent Users: Participants who used Danmu more than 2 times per week were considered as "Danmu frequent users"</p>		

The researcher conducted unstructured interviews that follow a pre-decided guide. The guide was formed based on the analysis of the collected data from a previous online survey. On the basis of different topic areas, participants who fit the descriptions were selected. In total, 19 participants were successfully interviewed through online voice call service.

## Data Analysis

**Quantitative data analysis.** The quantitative data collected from the questionnaire were analyzed using SPSS. The last open question in the survey (Q13: Explain what it is you most like about Danmu? What do you most dislike?) was an exception, which was analyzed following the qualitative method. Based on research questions, different tests were run.

***RQ1: What are the characteristics of Danmu frequent users.*** Based on the design of the survey, quantitative data was analyzed in the three following sections: Categorization Characteristics, Behavioral Characteristics, and Perceptual Characteristics. Descriptive statistics were applied first. Frequent tables were generated based on the questions. According to the descriptive statistics result, inferential statistics (t-test, ANOVA or Pearson Correlation) were run for some questions.

***RQ2: How do audiences feel about television Danmu.*** In order to answer this RQ, the Question 9 in the questionnaire was analyzed (Q9: How likely are you to want Danmu on the screen when you watch TV in future?) using the application of descriptive statistics.

***RQ3: Will Danmu be able to generate retention and word-of-mouth advertising from customers.*** Three sub-questions were asked in order to answer this question: 1) What percentage of Danmu users were stuck to Danmu? 2) How high are the chances that Danmu can generate word-of-mouth from its users? 3) How users' category, behavior, and perceptions affect their willingness of recommendation?

The first sub-question was analyzed using the frequency table. The second and third questions were answered with the help of descriptive statistics and inferential statistics like one-way ANOVA and Pearson Correlation.

**Qualitative data analysis.** After analyzing the quantitative data, the researcher found out that more qualitative data was needed. So interviews were conducted based on the given questions. The data collected from the interviews with the selected ones from the sample population was transcribed verbatim. Then each response was categorized to match the order of the interview questions. Quotations were selected from the interviews and then matched with research questions.

## **CHAPTER 4: RESULTS**

### **Introduction**

An analysis of the data yielded from the questionnaires and interviews revealed findings pertaining to the areas of the research questions. The findings from this study were categorized based on the following research questions:

RQ1: What are the characteristics of Danmu's frequent users?

RQ2: How do audiences feel about television Danmu (TV Danmu)?

RQ3: Will Danmu be able to generate retention and WOM from customers?

### **RQ1: What are the characteristics of Danmu's frequent users?**

Research question 1 sought to explore the characteristics of Danmu's frequent users and the survey question 3 was used to select "frequent users" from the total sample. In this study, participants who used Danmu more than two times per week were considered as "Danmu frequent users", and 25 out of total 105 cases were defined as frequent users. The analysis of their characteristics has been categorized in the following two themes: category and behavior (n = 25).

**Categorization Characteristics.** According to the studies that have been talked about in Chapter 2, prior researchers have forwarded the hypothesis that Danmu frequent users might have some common grounds in terms of age, education level, and occupations. Most of them had an agreement that Danmu users might be aged 18–30 and are school-going students. In addition to that, gender was another feature that needed to be tested. The questions in the questionnaire that corresponded to these features were question 1 (gender), question 10 (age), question 11 (education level), and question 12 (occupation).

First, the percentage table of the mentioned questions was generated. From question 10, it was revealed that the 18-24 age group was the majority among all the frequent users ( $n = 25$ ). 52% of frequent users fell into the 18–24 group. The education level and occupation of frequent users was also analyzed using descriptive statistics. The frequency table showed that 68% of frequent users fell into the group that held a Bachelor's degree ( $n = 17$ ). As Bachelor's degree holders were the majority among 25 cases, other groups became minorities as GED holders amounted to 12%. The ones with no diploma were 4%, the ones with technology training were 12%, and the ones who held a Master's were only 4%.

On the other hand, the frequency table of Q12 revealed that most of Danmu frequent users were either employed ( $n = 11$ , percentage = 44%) or students ( $n = 9$ , percentage = 36%). Concerning gender, among the 25 frequent Danmu users, 48% were female ( $n = 12$ ) and 52% were male ( $n = 13$ ).

In addition to descriptive statistics, inferential statistics have also been conducted to determine if there were significant difference within each groups, as revealed by each of the each category question. An independent-samples t-test was conducted to compare the frequency of Danmu use among male and female populations. There was no significant difference observed in the scores in case of females ( $M = 2.44$ ,  $SD = 0.716$ ) and males ( $M = 2.25$ ,  $SD = 0.639$ );  $t(50) = 0.957$ ,  $p = 0.343$ .

A one-way between subjects ANOVA was conducted to compare the effect of education level, age, and occupation on the frequency of Danmu usage in the given conditions. None of these factors were seen to have a significant effect at the  $p < 0.05$  level: Education [ $F(4, 47) = 1.570$ ,  $p = 0.198$ ]; Age [ $F(3, 48) = 0.863$ ,  $p = 0.046$ ]; Occupation [ $F(4, 47) = 0.269$ ,  $p = 0.896$ ].

In conclusion, the statistics obtained from the results suggested that the frequency distribution was concentrated to the age range 18-24, the ones who were employed, and the ones with a Bachelor's degree. And there is no significant characteristics in terms of gender. In addition to that, there wasn't enough evidence to prove that the differences between categories in each questions would have a significant effect on the frequency of using Danmu.

**Behavioral Characteristics.** As Danmu users' demographic showed certain trends, their behavioral characteristic were also studied. In this study, two major behaviors were considered: 1) How much television Danmu users usually watched, and 2) What programs they watched the most. In this study, these two questions were answered among selected frequent users ( $n = 25$ ) by analyzing their answers to question 8.

First, the purpose of this study is to evaluate the potential of using Danmu on the television platform, so it is important to estimate Danmu users' TV usage. If Danmu users watched television a lot, then there might be higher possibilities that more television ratings will be generated from these users. The descriptive statistic was calculated. Among 105 participants, 46.2% used TV 1–2hours/day, and 28.3% used TV 3–4 hours/day. On the other hand, among selected frequent Danmu users, there 46.2% were Danmu frequent users who watched TV 1–2hours/day, and 42.3% watched TV 3-4 hours/day. There was an observable 17.9 points difference between the percentages of the ones who watched TV 3–4 hours/day among the total sample ( $N = 105$ , percentage= 28.3%) and Danmu's frequent users ( $n = 25$ , percentage = 42.3%).

The Pearson product-moment correlation coefficient was computed to assess the relationship between the frequency of TV use and Danmu usage. There was a negative correlation between the two variables [ $r = -0.238$ ,  $n = 92$ ,  $p = 0.10$ ]. Therefore, the result

suggested that there was a trend showing that an increase in the Danmu users in the past one month related to more TV usage as well.

Next, this study sought to find which television genres the audiences like the most. First, the Wenjuan website provided the distribution of all answers as Figure 7. Analysis of Q8. Based on the choices, from the total sample in the study, the animation shows ranked 3.14 among 6 different genres that are aired on Chinese TV now, followed by variety shows

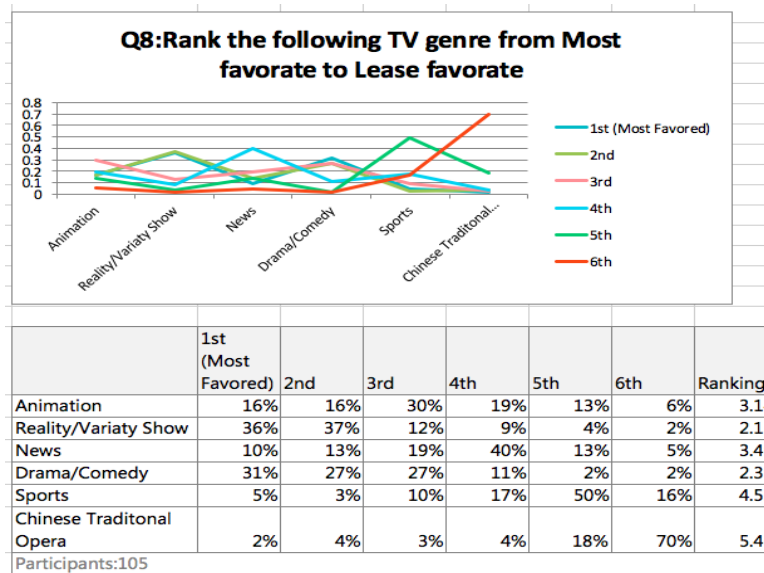


Figure 7. Analysis of Q8: Rank the following TV genre from most to least favorite. Adapted from the result given from Wenjuan.com

(average ranking 2.12), and then drama/comedy (Ranking 2.31). This result suggested that the variety/reality show was the most favored genre among the general audiences and that drama/comedy was the second.

In the meantime, frequent users' ranking results were separately analyzed ( $n = 25$ ). The order of the ranking given by frequent users was of the same order that was given by all other participants. Variety/reality show was still the most favored genre. Among 25 frequent Danmu users, 8 of them chose variety/reality shows as their favorite genre, 7 chose drama/comedy, and 4 chose animation. Animation possessed an average 3.44 ranking.

As a supplement to the quantitative data, the interview of Danmu frequent users ( $n = 10$ ) also provided references with which to analyze their genre preferences. The first question addressed to the interview was, "what's your favorite television genre?" Thus, roughly equal

number interviewees chose variety/reality show and drama/comedy to be their favorite television genre. A limited number of interviewers mentioned that they like to watch animation on television. Some users mentioned that even they liked the animations genre itself; however, they did not like to watch it on television because there were only a few programs on it. And most of them were found to be too childish.

The next interview question that was asked pertained to what the interviewees usually liked watching on Danmu websites. Interviewees showed some behavior changes when it came to the Danmu platform. The first change was that there more users who liked to watch animation on Danmu websites than on the television platform. These interviewees who moved to animation genre shared similar notions. Most of them mentioned that Danmu websites have extended access points to the content they want to watch compared to television. Some interviewees even stated that if there were certain programs aired on television, animation would have been their favorite genre on television. In addition to that, some interviewees who stated that they were animation followers considered the Danmu websites to be a community for them. Most of them mentioned that they liked to share their thoughts, or reply to others' comments on Danmu websites. This indicated that they might be the most active users on Danmu websites.

In the meantime, interviewees who said they liked drama/comedy on television also showed some preference shifts. Some of the television drama/comedy followers claimed that they watched variety/reality shows more on Danmu websites. The most common reason was that many interviewees felt that variety shows were the genre that would be more suitable for Danmu discussion. One of them said she considered drama/comedy to be more "private", and so she preferred to "watch alone". By saying watching alone, she meant watching either live on television or through streaming services.



Besides shifting their preferences from one genre to another, there were more interviewees who said that they watched various genres on Danmu websites compared to television. The common reason they gave was that Danmu provided a lot of the content that they won't be able to access through television. Most of the interviewees also mentioned that they liked to use the fast-forward and rewind features while watching.

To sum up, frequent Danmu users showed the similar genre preferences in context of the television platform. Variety shows comprised the most favored genre on television. However, many individuals tended to watch different genres on Danmu websites compared to what they like to watch on television. And the result suggested that variety shows and animation are possibly most-watched genre on Danmu with drama seen as stepping down in terms of ranking. These shifts were mainly caused by the differences in the watching experiences and the accessibility of the content.

## **RQ2: How Do Audiences Feel About Television Danmu?**

The second research question was designed to explore whether the audience would like to watch TV with Danmu or without Danmu. Both quantitative data and qualitative data were involved to answer this question. In the questionnaires, question 9 directly corresponded to this research question. Question 13 and question 4 indicated what perceptions participants held, which lead to their answers to question 9. In the follow-up interview, additional information was provided to understand why audiences wanted or did not want to see Danmu on television.

**Audience's attitude on seeing Danmu on television.** Question 9 asked how likely the audience were to have Danmu on TV and the descriptive statistics were calculated. The higher the score they gave on this question suggested that they have more intention to watch TV with Danmu. The central tendency forwarded by this question represented the total sample's

willingness. The mean of question 9 was 3.18, and there was a standard deviation of 1.89 (N = 105). As the score range given in this question was from 1–7, the mean was lower than the median. At this point, audiences showed a comparably lower willingness to use Danmu on TV. However, it might be too early to tell if this low willingness was caused due to some lack inherent in Danmu product itself or due to its insufficiency on television platform.

Under these circumstances, more research needed to be done in order to understand why audiences didn't want to see Danmu on TV. Two steps were taken in this regard. First, the researcher studied how the audiences felt about the online Danmu product itself. Next, the researcher studied how the audiences felt about the hypothetical extension of Danmu services to the television platform.

**How do audiences feel about Danmu product?** The first step was to find out how the audiences felt about the Danmu product itself. Question 4 and question 13 directly corresponded to participants' perceptions on the current Danmu product. Question 4 asked the participants to rate how much they agreed with the different statements. The means of the total sample (N = 105) on each statement in question were calculated. The positive statements: Danmu helped audience find details obtained the  $M = 5.09$  with  $SD = 1.600$ ; shared watching experience had  $M = 4.37$ ,  $SD = 1.857$ ; sharing opinion had  $M = 3.72$ ; interesting received  $M = 4.77$ . The negative statements: Danmu offensive received  $M = 4.71$ , with  $SD = 1.785$ ; distractive got  $M = 4.72$ ,  $SD = 1.884$ . In the meantime, the frequent users' data were also calculated for comparisons ( $n = 52$ ). Following are the descriptive statistic results of the selected cases ( $n = 52$ ): distractive ( $M = 4.58$ ,  $SD = 1.882$ ), find details ( $M = 5.37$ ,  $SD = 1.509$ ), shared watching experience ( $M = 4.88$ ,  $SD = 1.800$ ), share opinions ( $M = 3.94$ ,  $SD = 1.776$ ), offensive ( $M = 4.81$ ,  $SD = 1.597$ ), interesting ( $M = 5.04$ ,  $SD = 1.847$ ).

Compared to the data generated from the frequent users and the total participants, there was an observable 0.2–0.4 point differences between these two sets of data. It revealed that the means of frequent users ( $n = 52$ ) on positive descriptions were higher than that of the total sample ( $N = 105$ ), and shared watching experience was the one that had the most difference. Frequent users showed 0.51 point more agreement with the notion that Danmu can be used for sharing watching experiences than the general users. On the other hand, for negative descriptions, the frequent users ( $n = 52$ ) had less agreement on the statement that Danmu is ‘distractive’ than the total sample (total  $M = 4.72$ ; subsample  $m = 4.58$ ). However, Danmu frequent users showed 0.1 point more agreement on Danmu is offensive ( $m = 4.81$ ) than total sample ( $M = 4.71$ ).

Next, the answers to Q13 were coded and categorized. Q13 was an open question that asked participants what feature of Danmu they liked, and what they did not like. Their answers were categorized in different themes using different keywords. Most of the answers fell into the themes that were mentioned in question 9’s statements (interesting, sharing, distractive, offensive, and the like). The question “feature of Danmu they DO NOT like the most” was presented in 5 themes, as shown in the table below. It should be noted here that some of the cases may cross themes after coding.

Table 2: <i>Reasons participants disliked Danmu</i>		
Themes	Number of cases (N=105)	Percentage
Offensive	40	38.1%
Distracting	64	60.9%
Too much Ads	4	3.8%
Spoilers	1	0.9%
No opinion	2	1.9%

Combining the results generated from question 9 and question 13, it can be seen that there were two main reasons that made audiences not like the Danmu product, namely offensive and distracting. And frequent users felt less distracted but more offended. With this understanding, the researcher sought the answers from the 10 interviewees (Unwillingness users). Also, the reason why frequent users showed differences in their agreement of several statements was also studied.

The qualitative data from interviews was analyzed. As a result, many audiences agreed that Danmu was distracting as there was too much on screen. Interviewees used similar words to describe their feelings of get distracted while watching. Some users used the word “chaotic” to describe the scenes that were covered with redundant Danmu (see Figure 8. Danmu covered whole screen example). And some interviewees mentioned they found it to be very “noisy” when there were Danmu overfilling screen. Even though the way they expressed were different, most of the interviewees shared the common feeling that their distractions were caused by an excess of Danmu. For many, Danmu affected their watching experiences.



Figure 8. Danmu covered whole screen example. Screenshots from Bilibili.tv

In the interview, the researcher also tried to find out why people found Danmu offensive. And based on the results, most interviewees were of the opinion that they got offended due to aggressive comments. Besides, a few of them mentioned the bad influence exerted by profane and obscene content. First, almost all the interviewees admitted that they have seen some aggressive comments on Danmu. Username xuehua-7 shared her personal experiences regarding how she got offended. While she was watching a movie that featured her favorite actor, a lot of aggressive comments suddenly appeared. Those comments were all criticizing the actor's acting. "I felt so offended, especially I thought he was doing well in that scene." She also added, "Some people are just so ignorance on others' feeling when they are talking online."

Second, some interviewees found some comments to be indecent, and they felt offended by it. Some people mentioned that they've seen some "dirty talk" on Danmu websites. One user described her experience as, "It's just so lousy that someone talked like this on public, and I just felt sick when I saw it." However, some interviewees also mentioned that these indecent comments appeared more on the websites that used to be video websites but had added Danmu functions as an additional feature. Such occurrences have rarely taken place on original Danmu websites like Bilibili and Acfun.

As most of the participants agreed that Danmu was distracting and offensive, frequent users showed less agreement with the notion that Danmu is distracting. This indicated that frequent users were more adapted to Danmu's format. Danmu's format entails the scrolling up of the video and text combination. This better adaptation as indicated as most of frequent users found that it's not a problem to watch text and video content together. One frequent user said, "It's just depends on how you watch. Even if I missed some part, I can always playback." More than that, given that Danmu might cover up the screen sometimes, some frequent users found the

full-screen Danmu to be interesting. “They (Danmu) won’t cover the screen for a long time, when you see a few frames were covered by a lot of Danmu, you’d know that was a good scene or scary scene.” User yushijia explained why she didn’t find full-screen Danmu annoying by saying, “and you can always manage the number of Danmu on screen in setting.”

Even though frequent users are more comfortable with the Danmu format, but in case of the Danmu content, most of the frequent users saw more offensive sides of Danmu. Some of the frequent users even said that they were upset to see some aggressive comments on screen. Their responses indicated that even though most of the frequent users adapted to the Danmu format, they shared more feelings of disappointment on inappropriate Danmu content. In addition to that, Xuehua-7 shared more concerns on this situation when stating, “People sent Danmu to fight, and because these Danmu were attached to the video streaming, later audiences were forced to watch this argument when they reach this time node.”

As a summation of the downsides to the current Danmu product, the fact that it was distracting and offensive were the two biggest factors. Audiences felt distracted because they couldn’t efficiently adapt to the new format, a format where the texts appear synchronously with videos. And the exceed amounts of Danmu on screen aggravates the irreconcilability between the experiences of reading the text and watching the video. However, the result also indicated that frequent users were more adapted to the Danmu format. Therefore, they felt less distracted. In the meantime, Danmu was widely considered as being offensive because some Danmu content might be aggressive or profane. Frequent users also noted more because they had more chances of encountering these inappropriate contents.

However, participants have also recognized the upsides of Danmu. And as reported by the quantitative data, frequent users showed higher level of agreement on these positive aspects.

In the follow-up interview, frequent users were asked what they liked about Danmu. First, the survey indicated that frequent users agreed more upon the fact that Danmu can help finding details in the survey. In the interview, some users shared examples of how Danmu could help users to find details. For instance, one user mentioned the Chinese drama “Hou Gong Zhen Huan Zhuan”. Danmu reminded her of a detail that hidden in the scene that promoted the development of a later plot.



Figure 9. Screenshot of Danmu on "Case Closed", from Bilibili.tv

Also, the survey also revealed that frequent users more consistently agreed with the statement that Danmu is interesting. The result from the interview suggested that frequent users found Danmu to be more interesting because they had a deeper more understanding of the Danmu culture and the language context. For example, one user shared that an example from an animation “Case Closed” (see Figure 9 above), a Japanese detective animation series. She said it happened very often that some comments would use a funny way to give spoilers to other audiences. Just as how it has been showed in Finger 3, all colored comments were saying, “He is the killer”. In her interview, she explained why by stating, “Usually when people see spoilers advance, they would be upset. But for Danmu fans like me, we actually found it was interesting to see how others used different way to send this message.” It is implied that the cultural understanding helped her discovered the interesting sides of Danmu.

The cultural understanding was also a precondition that determined why frequent users agreed more on the statement that Danmu can be used for sharing watching experiences and their own opinions. Some frequent users agreed that watching videos with Danmu gave them the feeling that they are not alone. Some of them mentioned that they enjoyed watching “Danmu discussion”, which is basically later Danmu responding to earlier Danmu. This made them feel as if they were watching in groups. User LMystic shared another personal experience: “This was really helpful when you watching horror movies, there will be someone ‘protect you’ by using Danmu. They might use Danmu to cover the scary scenes, or they would let you know scary thing is coming.”

**How do audiences feel about Danmu on television?** This study also interviewed several unwilling users, and the users who showed low willingness for seeing Danmu on television. A few of them clearly stated that they disliked Danmu products. The reason they did not like Danmu fall into the reasons that were given in 4.3.2: Danmu sometimes are distracting and offensive. On the other hand, other interviewees admitted that they accepted the Danmu product, but they were not ready to see it on the television platform (Online Danmu acceptors). In the interviews of these online Danmu acceptors, they were asked to give the reason as to why they did not support this cross-platform extension. Three patterns emerge in their responses from the interviews, which were: complex users, different watching experiences, and Chinese TV censorship.

**Complex users.** All the online Danmu acceptors mentioned that extending Danmu to television platform will generate more complex users, which could aggravate Danmu’s offensive and distracting problems. The term complex users means a larger amount of users and more diverse audiences that might be reached by the broadcasting system. Some interviewees shared



the concern that if there are a great amount of audiences sending and watching Danmu, then there will be someone who will feel offended, including themselves. In addition to that, while the audience's' interests are varied, it is very possible that not all the audience will be able to understand the Danmu context.

***Different watching experiences.*** Most of interviewees mentioned that the watching experiences will be different if Danmu is on television. First, TV Danmu may not have some functions that online Danmu is having now. Some interviewees mentioned that they tended to rewind and fast forward a lot when they were watching online videos. Playback was the commonly used functions, especially when audiences saw some Danmu that informed them that they had missed some information earlier.

Besides the mentioned functional differences, some users also mentioned that using Danmu on television would reduce their feeling of engagement. The engagement that is represented as the interaction experienced with video programs. One interviewee, who goes by username TOHO-Clock, explained the differences in terms of involvement with the programs between TV and the online medium. He mentioned that on the Danmu website, the video producer might change the video content according to the audiences' comments, especially for live programs; however, on TV, there will be a few chances to affect the content since most of the TV shows are pre-produced.

***TV Censorship.*** The censorship of the content was another common theme that has been mentioned by some interviewees. Whereas some people mentioned that a strict control will be needed to prevent Danmu from becoming obscene, indecent, or profane, others held the idea that too much control over the Danmu would eliminate Danmu's interesting points. Additionally, some people believed that it will be very hard for TV stations to check all the Danmu content.

So, there will be high possibilities that the Danmu content might be vulgar. And this idea brings us back to the offensive content problem that Danmu product is experiencing right now. As what has been discussed before, most of the Danmu users shared the concern regarding many inferior Danmu content. And some people believed this problem would only be exacerbated on the new platform without any censorship.

On the contrary, some interviewees expressed a totally opposite idea that Chinese TV has more restricted censorship than online videos. If Danmu got tightened or inspected, audiences may not have the chance to see the real interesting comments. User TOHO-clock said that, “If all the comments on TV were filtered, how we can know those comments were actually from audiences, not from the TV stations.” As an animation fan, he also added “I don’t think some of the animation would ever be aired on television.” This answer might also represent why some drama and animation followers did not show much interests in television Danmu. While some of them liked Danmu because Danmu can give them more content access, they were not in favor of television Danmu as that medium would lose one of its big attracting points.

To summarize the results for the research question 1, even though there were audiences who accepted the Danmu product, most of the audiences would rather watch TV without Danmu. This low willingness was caused by mixed reasons. On one hand, some participants showed low interest because they were already dissatisfied with the negative aspects of the current Danmu product. They were disappointed by the Danmu product itself because they found it was offensive and distracting. On the other hand, even though many participants found Danmu to be interesting, informative, and communicative, some of them still said no to TV Danmu. This is because they found TV Danmu might have complex users, different watching experiences, and

possible censorship dilemma compared to the online Danmu products. These differences would take the Danmu's attractions away.

### **RQ3: Will Danmu Be Able to Generate Retention and WOM from Customer?**

To answer this research questions, two themes of studies were addressed in this question:

- 1) Retention: How many Danmu users were retained? And why is it that they stayed?
- 2) WOM: Will Danmu be able to generate WOM? And what factors would affect their willingness to recommend?

**Retention.** The first step to study on Danmu users' retention was to pick the sticky users out of the whole sample population ( $N = 105$ ). Based on the answers to question 2 (Q2: Have you used Danmu before?), only those who answered "yes" were considered to be valid cases as Danmu users. This left 82 out of 105 participants who were considered as Danmu users.

Based on the definition of customer retention, it was tested whether the customers stays or leaves after the first use. In this study, based on their answers to question 3, those who answered that they used Danmu more than 1 time a week were considered as being valid samples. This step left 52 out of 105 samples as retained users. And based on these valid samples' answers on question 6, the level of users' willingness to come back was tested. There were in total, 24 out of 82 Danmu users who showed that they would come back to use Danmu the next month, and 4 of them showed high willingness to use Danmu again (scored 7 on this question).

Through the process of selecting cases, it could be observed that Danmu showed limited abilities to hold its users. There were only 22.8% of the sample population who turned out be retained users of Danmu ( $n = 24$ ,  $N = 105$ ). However, websites generally find it hard to keep audiences. So, the quantitative customer retention rate was not enough to answer the question. The reason why some users chose to leave, and why some of them kept coming back became

more essential to evaluate the potential of the Danmu product. The qualitative data were addressed to this issue.

In the interview, some interviewees claimed that they left Danmu after the first use. The reasons they gave were overlapped with the being distracting and offensive problems that had been discussed in Research Question 2: distracting and offensive. In addition to that, when taking a closer look at these people's answers, it showed that they emphasized more on the distracting side. As what has been discussed in 4.3.2, this distracting feeling was possibly caused due to the lack of the cultural understanding. And more the amount of Danmu on the screen, the more they felt distracted. One interviewee's statement represented how they felt about Danmu: "I do not understand why people want to have so many words on the screen. It's so noisy."

While users left after their first use because of the lack of the cultural understanding, user Xuehua-7 became a special case. Unlike those short-stay users, in her interview, this user stated that she had used Danmu regularly for a period of time. But she stopped using it when she felt Danmu was becoming "chaotic". Her personal story of how she was offended by aggressive comments was discussed in an earlier section. She showed concerns on the deterioration of Danmu quality along with the expansion of Danmu: "Danmu used to be very interesting, but now more childish people start to use it. Danmu is not in good quality anymore." Comparing to other short-time users, Xuehua-7 was considered a long-time user. While the short-time-users focused on the amount of Danmu, the longer-time users cared more about the quality of Danmu.

On the contrary, there were a group of people who stayed with Danmu. Having chosen to use Danmu the most in the next month (highest stickiness), Case No. 40,41,64,73's answers on the questionnaires were particularly reviewed. Although they gave various answers in the survey, they did share some common thoughts. On reviewing their agreement on perception questions, it

was shown that they all gave the highest score (=7) on the statement that Danmu is interesting. And in Question 13 that enquired after what they liked about Danmu, they all used keywords like “interesting”, or “funny” that related to interesting. Besides sharing the common perception, they also shared another behavior characteristics of considering animation as their favorite television genre. Therefore, this result indicated that the interesting side of Danmu might be one of the important attractions to hold users. The result also cooperated with the result from Research Question 2 that animation followers tended to have higher retention on Danmu product.

Except for the above-mentioned reasons, one frequent user who goes by username Lexburner provided a new angle to explain why he was addicted to the Danmu website. It was because Danmu websites had its special loyalty program. Taking AcFun as example, the more a user has shared, the more virtual banana he/she can get. These “bananas” can be transferred to a different level, and ultimately, these bananas can be used to redeem real products. Lexburner shared his new goal with the researcher: “My goal now is to earn enough ‘bananas’ for a XBOX.” But he also admitted that he needed to be very active and had to spend a big amount of time in order to achieve this goal.

To sum up the findings pertaining to Danmu users’ retention, it was indicated that Danmu has limited power to keep users just like other Internet products. While short-time users left Danmu because they were lacking in terms of cultural understanding, long-time user left because of the deterioration in the comments’ quality. On the other hand, users stuck on the Danmu product shared the agreement that Danmu is interesting. Danmu’s loyalty program could also extend the time the users spend on Danmu.

**Word of Mouth.** As a reflection of loyalty, the ability to generate WOM was directly asked by question 5 “How likely you will recommend Danmu to others”. Descriptive statistics

was calculated first. The mean of the questions was 3.91, with  $SD = 1.981$  ( $N = 105$ ). It showed the trend that people were willing to recommend Danmu to others. In addition to that, researcher ran the same test with Danmu loyal users, and the mean turned out to be 5.42, with  $SD = 1.349$  ( $n = 24$ ).

An independent-samples t-test was conducted to compare the recommendation possibility in the time conditions of Danmu being used  $> 1$  time and  $\leq 1$  in the last week. The cut point 2 was set. There was a significant difference in the scores for over 1 time ( $M = 1.40$ ,  $SD = 0.652$ ) and  $\leq 1$  time ( $M = 1.13$ ,  $SD = 0.500$ ) conditions;  $t(103) = 0.002$ ,  $p = 0.107$ . The result suggested that the usage of the previous month indeed influenced the willingness to recommend the Danmu product to others. In addition to that, a complementary Pearson correlation was computed to assess the relationship between the frequency of usage in the previous month and recommendation. There was a correlation between the two variables ( $r = -0.316$ ,  $n = 82$ ,  $p = 0.004$ ). All the mentioned analysis supported that Danmu can generate WOM from its users. In other words, the more the users used Danmu, the more loyal the users would be, and there would be a bigger chance that they might recommend it to others.

Unlike the low retention rate, Danmu actually showed a comparably strong power to generate WOM. So, another question was raised explore what other factors affected users' willingness to recommend besides their frequency of Danmu usage (behavior factor). Users' category and perception factors were also considered.

Independence t-test was conducted to compare the recommendation rate among the females and males, with gender being the condition in question. And there was not a significant difference in the scores for female ( $M = 3.91$ ,  $SD = 3.92$ ) and male ( $M = 3.92$ ,  $SD = 2.10$ ) conditions;  $t(103) = -0.018$ ,  $p = 0.986$ . And for different age groups, a one-way between-

subjects ANOVA was conducted to compare the effect of age groups on the willingness to recommend. There was no significant effect of IV on DV at the  $p < 0.05$  level for the 7 conditions [ $F(3, 103) = 0.189, p = 0.904$ ]. The one-way ANOVA was also conducted to compare the effect of occupation on the willingness to recommend, and that of the education level on recommendation. The result revealed that there was no significant effect of occupations on recommendation at the  $p < 0.05$  level for all the given conditions [ $F(3, 103) = 0.189, p = 0.904$ ], and neither did the education level have any impact on recommendations as  $F(4, 100) = 0.709, p = 0.588$ .

Besides category factors, perceptions were also compared. The following ideas were tested in the questionnaires: 1) Danmu can help finding details; 2) Danmu is shared watching experience; 3) Danmu is interesting; 4) Danmu is distracting; 5) Danmu can share opinions; 6) Danmu is offensive.

First, the idea that Danmu can help finding details showed a significant effect on the recommendation willingness at the  $p < 0.05$  level [ $F(6, 98) = 3.605, p = 0.003$ ]. The complementary Pearson Correlation revealed that there was a negative correlation between the two variables,  $r = 0.385, n = 105, p = 0.000$ . It suggested that more the users agreed on the idea that Danmu can help in finding details, the more the audience would recommend it to their friends. Second, the idea that Danmu is a shared watching experience was seen to have a significant influence on the possibility of recommendation at  $p < 0.05$  level [ $F(6, 98) = 4.673, p = 0.000$ ]. A positive correlation was suggested between these two variables with  $r = 0.448, n = 105, p = 0.000$  through the Pearson Correlation. The results revealed that more the audiences agree that Danmu is a shared watching experience, the more possibility there would be of them recommending it to others.

Another idea that was suggested to have an influence on the recommendation rate was “Danmu is interesting”. The ANOVA compared to show that the effect of this notion on recommendation was lower than 0.05 level [ $F(6, 98) = 6.729, p = 0.000$ ]. And the correlation result between the two variables was  $r = 0.531, n = 105, p = 0.000$ . On the other hand, based on the ANOVA test results, the ideas that Danmu is distractive [ $F(6, 98) = 1.522, p = 0.179$ ], Danmu can share opinions [ $F(6, 98) = 2.399, p = 0.033$ ], and Danmu is offensive [ $F(6, 98) = 0.571, p = 0.752$ ] revealed to not have a significant influence on the willingness to recommend.

Table 3: <i>What factors have influences on recommendation rate</i>		
Statement	Related?	How?
1) Danmu can help finding details	Yes	More agreement on this statement, more recommendation
2) Danmu offers a shared watching experience	Yes	More agreement on this statement, more recommendation
3) Danmu is interesting	Yes	More agreement on this statement, more recommendation
4) Danmu is distracting	No	
5) Danmu can share opinions	No	
6) Danmu is offensive	No	

Qualitative data was used to provide the reasons to explain why loyal users showed more tendency to recommend Danmu to others. Interviewees were asked why they wanted to recommend Danmu to others. One pattern was generated from all the interviewees showing that they found Danmu to be interesting, and they want to share the same with their friends.

According to the results mentioned in this section, Danmu showed comparably high power in generating WOM. Users usage of Danmu and their perceptions of Danmu were indicated to have some positive correlations with their possibilities of recommendation. The more Danmu



was used, the more chances there would be that the user would recommend Danmu to others. Also, users who agreed with the notions that Danmu is interesting, Danmu offers a shared watching experience, and Danmu can help finding details were shown to have higher possibilities to recommend Danmu as well.

## CHAPTER 5: DISCUSSION

### Introduction

The online Danmu product has been growing rapidly in the past few years. There were studies suggesting that there might be possibilities of extending the Danmu service to the television platform that might help the current television industry to attract more audiences. This study sought to explore the possibility of television Danmu taking into account the audiences' side.

Various studies worked on identifying the characteristics of Danmu's frequent users and television users. Potential links were built based the descriptions of Danmu's and television's frequent audiences. With these links, the hypothesis that Danmu might help television generate its missing audiences was conceptualized. A second hypothesis was consolidated using other past studies. It was suggested that some of television's add-on features and some of Danmu's television related trail were favored by audiences. The third hypothesis suggesting that Danmu could generate audiences' loyalty was also conceptualized based on prior research works, which is also valuable to television.

With the possibilities that Danmu might be able to help television generate more audiences and strengthen their loyalty, three research questions were raised, which are:

RQ1: What are the characteristics of Danmu's frequent users?

RQ2: How do audiences feel about television Danmu?

RQ3: Will Danmu be able to generate retention and word-of-mouth advertising from customers?

Quantitative data was collected through an online survey, and the researcher used these data to determine who are Danmu's frequent users, how they feel about Danmu, and if they will be loyal to Danmu. In addition to that, qualitative data was also collected through interviews

with selected survey participants. It was used as a complement to explain why specific results were generated from the survey.

### **RQ1: What are the Characteristics of Danmu's Frequent Users?**

The first research question this study sought to answer pertained to the characteristics of Danmu's frequent users. The first aspect of the characteristics was audience demographic characteristics. According to some prior studies, television has showed some audiences' demographic gaps that Danmu's user might be able to fill. As what has been discussed in Chapter 2, some researchers demonstrated that television's frequent users were older, less-educated, and comparably, a high percentage of them were unemployed. And television had been trying to attract more audiences out of the mentioned demographic. On the other hand, many prior researchers have indicated that Danmu users might be young and well-educated. This has raised the hypothesis that if Danmu users truly belongs to television's missing demographic, then Danmu might help television attract more audiences to the television platform.

To test whether Danmu has the mentioned potential, this study focused on the categorical characteristics that Danmu users have. By analyzing the quantitative and qualitative data, it was suggested that most of the frequent users were in the age bracket 18–24, employed, and bachelor-degree-holder. Comparing to television frequent users description, therefore, the result from the study showed that most of the Danmu users were part of the television-missing demographic. Therefore, Danmu might have the potential to help television attract more audiences. Specifically, Danmu might help television in balancing the audience's age, employment, and education levels. However, because Danmu users didn't show much skewing with regard to gender, it was still too early to decide whether Danmu will be able to help television balance the effect of the audiences' gender.

The second aspect of this research question was behavior characteristics. More specifically, how much television Danmu users watched, and what they watched. As a result, there was a positive correlation between Danmu watching and television watching. In addition to that, Danmu's frequent users were also shown to watch more television. This result suggested that Danmu users, especially frequent users, might be regular television watchers as well. Therefore, if Danmu is extended to a new platform, its regular users may still be reached.

With the understanding that Danmu users might also be active television audiences, the next step was to find out what they liked to watch. Past studies have suggested that Danmu might be attractive to animation fans (Jiang, 2014; Songsong Chen & Ge, 2014; Chen, 2014 ). And drawing them to television can boost the development of TV animation programs. However, the result turned out to be different from the original assumption. Variety shows were revealed to be the most-favored genre among all participants, not animation.

Even though majority of the Danmu users turned out to be non-animation fans, this result suggested more possibilities that Danmu might achieve on the television extension. As what has been discussed in Chapter 2, animation is not the only genre that is being developed (Qin, 2016; Nielsen social report, 2016). Variety shows was another important genre and it has dominated Chinese prime time in the recent years. Therefore, while variety show is more developed than animation, Danmu might be more popular when applied on television. First, there might be more programs available for Danmu to install. Second, variety/reality show has been considered as the genre that can generate the most social interactions. As one social feature, Danmu's social function might be maximized when applied to television's variety shows.

Under this circumstance, there are many Chinese shows that might be applicable for Danmu to launch. For example, Go Fighting!<sup>3</sup>, one of the most popular variety shows in China, has used after-effects to add some comments in several funny scenes. Even though these comments were not from real-time audiences, the audiences liked this mimetic move. Besides that, Hunan TV might also be a good station to start the Danmu approach. This is because Hunan TV was famous for its innovation and interaction (Zhang, 2012 ). For example, Danmu may be used on variety shows like Happy Camp<sup>4</sup>, one of the most popular variety show in China, and the show's anchors may comment on some interesting Danmu or share their personal ideas with audiences. By doing that, not only will the audience be sending Danmu, but the audiences watching it would feel that they are engaged.

Users' preferences on variety show might raise the potential of Danmu on television, but animation is still an important genre when discussing the Danmu's television transformation. Because this study suggested that animation still plays an important role among all the genres on Danmu websites. Animation lovers tend to be more loyal. And audience's loyalty is important for television programs. In addition to the program loyalty, animation fans turned out to be the most active Danmu users, as seen in the results. Because Danmu itself requires users' engagement, so it might also be applicable to launch Danmu on animation programs, which might help in creating some vivacious Danmu program in future.

---

<sup>3</sup> Go Fighting! (Chinese: 极限挑战; pinyin: Jíxiàn Tiǎozhàn) is a Chinese variety show broadcast on SMG: Dragon Television. It was first aired on 14 June 2015. This show is classified as a game-variety show, where the MCs and guests complete missions at a landmark to win the objective (Go Fighting!, n.d.) .

<sup>4</sup> Happy Camp is a Chinese variety show produced by Hunan Broadcasting System, one of China's most popular shows, with a viewership of tens of millions. Each episode aired weekly feature several popular celebrities as guest stars. The happy camp stage gives many celebrities the opportunity to show their talents. Because the Happy camp show is so popular (well known), many singers and actors want advertising their productions such as movies, books and songs. They participate in interviews, performing, and party games (Happy Camp, n.d.).

If television animations started to add Danmu, someone might argue that animation audiences might be too young to use Danmu. Admittedly, there was a stereotype in China that only children watch animations. And most of Chinese animation channels are still targeting young audience in 6–12 age group. Considering that the children are not mature enough to take responsibilities for their behaviors, they may not be the appropriate audiences for TV Danmu. At least for most of the current animation programs, some people might argue that Danmu may not be suitable to use.

Admittedly, most of current Chinese animation audiences are still young. However, there are signs that the situation will change in the near future. As what was discussed in Chapter 2, some researchers have already indicated that Chinese television has started to have more animation programs that target adults or young adults. Furthermore, Japan underwent a similar transformation in the animation industry at 1980s, which led to its current diversified animation market (MacWilliams, 2008). With the development of Chinese economy, many researchers have forecasted that animation programs will become more classified on Chinese television, just like what happened to Japan. In this proposition, a possible ground for TV Danmu on animation programs might appear.

With the signs of the emerging diversity in the animation market, it becomes possible to have Danmu on television animation programs. Danmu might be used for those animations that target adults or younger adult audiences. For example, *Dong Xi Dong Man She*, the program that targeted to older audiences can be one of the possible programs to launch Danmu. One of the typical model of this program is that the anchor would comment on an animation before and after it gets shown to the audiences. If Danmu was involved, the new format can have the audiences and anchors reviewing an animation synchronously.

With what has been discussed above, there were three takeaways from this research question: 1) Danmu user have high chances of belonging to the television missing demographic, and they have showed the possibilities to shift to television if Danmu is actualized. 2) Danmu users watched variety shows more, and hence, television variety shows might be the most applicable genre if Danmu really gets launched on television; 3) Animation fans are still important while discussing the platform extension of Danmu's service in future.

## **RQ2: How do Audiences Feel about Television Danmu?**

In this research question, researcher sought to explore whether audience like to watch television with Danmu or not. From the literature reviews, some researchers have suggested that as an existing product, Danmu had some attractions as well as some downsides. Because applying Danmu on television is still a visualized theory, the researcher could only conceive some assumptions based on the products that had similar features as Danmu in the prior studies. Past studies on some social television prototypes have suggested that audiences like the text chatting feature, which is similar to what Danmu offers. And the Danmu theatrical trial was also favored by audiences. So a hypothesis was conceived that audiences might like to watch television with Danmu. However, the result obtained from this study were opposite to the hypothesis. Overall, the participants showed low willingness for seeing Danmu on television.

For further information, researcher studied the reasons as to why participants did not want to see television Danmu. The first step was figuring out how audiences felt about the online Danmu product. This study revealed that audiences have noticed both upsides and downsides of online Danmu. On one hand, the result showed that entertaining, informative, and communicative were the three attractive traits that the participants found to be the most about appealing Danmu. On other hand, this study also suggested that most of participants had different levels of complains

when it came to Danmu's distracting and offensive aspects. This result corresponded with several past studies showing how users started to feel some negative effects of Danmu.

As participants have noticed both the upsides and downsides of Danmu, there was no obvious quantitative skewing shown on either sides in the survey. However, compared to the downsides, this qualitative data indicated that audiences needed to have a certain level of cultural understanding to see the mentioned positive sides. This cultural understanding was not universal. On several occasions, only Danmu's frequent users were able to see the interesting side of Danmu. In these respects, the online Danmu product itself might initially experience some market entry barriers that kept some customers away.

Even though participants did not show obvious sentiments on the online Danmu product, however, they showed clear signs of rejections on the matter of seeing Danmu on television. This was indicated by the result that the whole sample showed low willingness score for watching television with Danmu in the survey. This reluctance also applied for both short-term users and frequent users. Short-term users rejected TV Danmu because of their existing dissatisfaction on the online Danmu products. Long-term users turned it down because they had concerns pertaining to different issues that might happen after the platform extension.

One of the biggest concern that has been raised by long-term Danmu users was that of the presence of complex users. People believed that if Danmu was applied on television, there might be the upcoming of more diverse audiences. And this was seen to be a problem. Because following this more people might get offended, and there will be more people who do not share the cultural understanding. In other words, the quality of the customer experiences that Danmu provided right now would be demoted by the enlarged audiences' scale.



Another issue that TV Danmu might have is the future dilemma pertaining to whether Danmu should get censored. Some participants asked for the censorship on television Danmu because they wanted the provider to eliminate any inappropriate comments. And another school of thought did not want censorship because they did not want the Danmu interesting aspect to get deprived. Both sides aimed for the same target – they wanted to keep Danmu’s current quality and customer experience constant. Most of users doubted TV Danmu because they believed that the quality would be built on a controllable scale of audiences.

For original Danmu websites, their audience was in a reasonable scale with the help of the rules that would be settled by the websites’ runners. In order to submit Danmu, users needed to pass the extremely hard quiz that tested people’s knowledge on the ACG culture. And by doing this, users were filtered based on their cultural understanding. This might be one of the reasons why some frequent users said Danmu was more “harmonious before”. The cultural understanding was the leverage to keep the quality of customer experiences.

This result was different from what has been analyzed from prior studies. Based on prior studies, the researcher had the assumption that audiences would like to watch television with Danmu because audiences enjoyed text chatting with social television prototypes. However, even television audiences might enjoy text chatting on screen while watching television, but they might have second thoughts when this feature becomes Danmu. Although there were similarities between text chatting and Danmu on television, there was a big difference as well. Social television prototypes like Collabora TV and STV were initially used for private communication, and there were only limited participants who could join a conversation. Danmu, on the other hand, tends to be a public chatting feature. Not all users enjoy public chatting, and hence, the size differences may lead to the low willingness to see TV Danmu.

The differences on audiences' scale might give different audiences experiences. The successful theatrical use of Danmu was another factor that lead to the researcher's hypothesis. However, just as text chatting only reaches small size of audiences, there were only limited participants involved in the theatrical Danmu trial. The scale of broadcasting system would reach a larger amount of audience than movie theaters, especially if there were only a few cities that have tried Danmu movie.

To summarize research question 2, this study indicated that most audiences would rather watch television without Danmu. This is because first, not all people like the Danmu product. They did not like it because Danmu's required certain level of cultural understanding to detect the attractions. Second, even if some people liked the Danmu product, they still showed low willingness for using Danmu on television. This is mainly because they were worried that the quality of Danmu would be taken away. For shifting from an online platform to the television platform, Danmu is expected to maintain an appropriate scale to keep the quality of audiences' experience. And this scale might be controlled by cultural understanding. With the importance of cultural understanding, this study indicated that Danmu may not be suitable for wide television use. It may only be appropriate to be used for groups that are sharing same interests.

### **RQ3: Will Danmu Be Able to Generate Retention and WOM?**

**Retention.** Based on the past studies, Danmu customer loyalty was tested by the customer retention and its ability of generate WOM. First, this study calculated the theoretical retention rate of Danmu, based on the participants' answers in questionnaires. And the result revealed that 20.8% customer would be retained on Danmu. This was low in comparison to some related industry. For

example, OTT video services, except for Netflix and Hulu, most online video service have roughly 50% annual churn rate (Informa Telecoms & Media, 2013).

Tracing back to the reason why online Danmu has limited ability to hold its customers, Danmu products' inherent characteristics might be the main causes. First, this study indicated that Danmu users were required to have a certain level of cultural understanding to adapt to Danmu functions. This requirement created an entry barrier. And this entry barrier might filter some users after their first use, which possibly led to Danmu's low retention rate. Second, the customer retention rate may also be related to the quality of Danmu's content. The result of the study indicated that while short-time users focused on the format of Danmu, long-term users focused more on the quality. And the drop in quality was the biggest reason that these frequent users left.

From what has been discussed above, Danmu has a comparably low retention rate. And this low retention might be caused by its cultural entry barrier and users' disappointment on Danmu qualities. Therefore, if Danmu wants to extend to the television platform, some adjustments may be needed to be made before the transformation. Based on the result, educated users, especially users in the early majority<sup>5</sup> and late majority group might still pose an important task for Danmu technology.

Des Trynor (n.d.), Co-founder & chief strategy of strategy officer in Intercom company, discussed how to send the most effective message to educate customers. Simplifying the concept for customers is the key point so that the customers would feel that they can take it on from there (Trynor, n.d.). In Danmu's case, by simplifying the filter function, the function that users can easily use to turn on/off Danmu, or by filtering some content that contains certain keywords, an effective

---

<sup>5</sup> Diffusion of innovations theory, pioneered by Everett Rogers, posits that people have different levels of readiness for adopting new innovations and that the characteristics of a product affect overall adoption. Rogers classified individuals into five groups: innovators, early adopters, early majority, late majority, and laggards. In terms of the S curve, innovators occupy 2.5%, early adopters 13.5%, early majority 34%, late majority 34%, and laggards 16%.

approach might be devised. This is because for new users, adapting to Danmu's format is a time-consuming process. And guiding them to use Danmu would help users shorten their time of adaptation. In addition to that, comments quality also has influence on users' retention. If audiences have already gotten educated on how to use filter functions, they can control Danmu's quality on their own.

Besides the mentioned adjustments for Danmu, the result from the study also showed that loyalty programs have the possibility of helping Danmu retain its user longer. One user has mentioned that the loyalty program was the "biggest reason" that he had been actively using Danmu. And his action fits the theory that the loyalty program could help a brand reduce the customer churn rate. There are few television loyalty programs on the market now, and television checking application, Viggle, is one of the most popular one. It is used to give users real, tangible rewards simply for watching their favorite television shows. Launched in February 2012, the application has gained over 3 million registered users and a hundreds of thousands of prizes have been redeemed ("*Viggle: Crafting*", n.d.). Learning from Viggle, TV Danmu may also have some loyalty program as well. Giving reward as Viggle did might be a good approach to retain users.

In addition to that, Viggle was also criticized due to the depth of the engagement. Scholars considered the interaction level it elicited as being too shallow. Danmu, on the contrary, might have triggered deeper engagement. While Viggle had a hard time to verify whether the audience were watching or not when they checked in, Danmu, on the other hand, requires actual interactions. Therefore, the reward program might be more practical.

**Word of mouth.** The WOM shows the effectivity of users' loyalty (Ranaweera & Prabhu, 2003). And the participants in this study gave an above-average score on their willingness to recommend Danmu to others ( $M = 3.91$ , score range 1–7). It indicated a trend that Danmu can

generate WOMs from users. In addition to that, several factors were crosstab compared with the recommendation rate. Three aspects of Danmu were shown to have a significant relationship to Danmu's ability to generating WOMs. The users having more agreements on Danmu can help in finding details, can share experiences, and might be higher chances of them recommending it to others.

The mentioned three aspects of Danmu are the upsides of Danmu. And as what has been discussed in RQ2, compared to short-time users, frequent users share a certain level of cultural understanding that allows them to agree more on Danmu's advantages. In the meantime, as what has been discussed above, if the users have more agreement on certain advantages, they might have bigger chance to generate WOM. Therefore, Danmu frequent users might be the most potential group to generate the WOM, while they are the groups that share the most common understandings.

Frequent users might be the most possible users to generate WOM. Then developing more frequent users will become an essential task if Danmu wants to expand. In other words, retaining more users will help Danmu have more WOM as well. This brings Danmu's low retention rate back into the discussion. As what was discussed in Chapter Five, educating users might be one of the approaches to increase Danmu's retention rate.

In addition to educating customers, Mr. Trynor (n.d.) also discussed that nudging customers could be another approach to market products. Nudging is one of the popular marketing strategies to retain customers. Adam Ramshaw (n.d.) argued that customers tend to leave because of they don't feel the necessity of a certain product. Promoting the right ideas is one of the key means to keep them (Ramshaw, n.d.). Based on the result of how different perceptions are related to recommendation rate above, when marketing Danmu, promoting the features that Danmu is

interesting, sharing-friendly, and informative might be more effective than other aspects. In other words, emphasizing that Danmu has the mentioned features that other services do not may save some customers.

In conclusion, even though Danmu has decent WOM potential, but because the WOM is affected by the retention rate, current Danmu may still not be capable of generating much users' loyalty. Due to its importance, increasing customer loyalty might be one of the important tasks that need to undertaken before Danmu's cross-platform extension.

Based on Danmu's current situation, the result of this study suggested some possible approaches that Danmu can choose if the platform shifting happens. Educating customers on the filter feature could be a possible approach along with providing a loyalty program. In addition to that, promoting customers with the idea that Danmu is interesting, sharing-friendly, and informative while marketing might also help.

## **Limitations**

Although the study has given answers to the research questions, there were several limitations to it. The first limitation was related to the lack of available data. Because the survey was distributed online, it does not efficiently represent the population who do not have access to the Internet, especially the older demographic. And there was a missing fan base on age group over 45. Second, because it was an open online survey, and because the researcher couldn't control who had access to the questionnaire, the collected data showed the males as being under-represented. Because female participants were significantly more than males in this study, so the influence of gender may not have been validly presented in this research. These limitations have

an impact on the internal validity as this study was trying to find out the influences that age and gender might have on Danmu usage.

A second limitations were related to the accessibility and scheduling issues of the interviews. Because all the questionnaires were collected through paid online survey services, it was very hard to ask participants for further information. Due to the scheduling issues, although the researcher could contact enough members from the sample population, there was failure to have in-depth discussion with the interviewees. Some of interviewees showed comparable low willingness to answer complicated questions. This limitation could affect the validity of the analyzed data as well as advanced discussion.

Other limitation was related to the designing of the questionnaires. Whether audiences like to watch videos with Danmu or not should have been directly asked in the questionnaire. The absence of this question led to the insufficiency of using quantitative data to answer some research questions. The above limitations have affected the internal validity of the result. Greater number of members in the sample population, differently performed distribution of the survey, and redesigning the questionnaire may have procured more accuracy, reflecting better the feasibility of using Danmu product on the television platform.

### **Recommendation for Future Research**

Based on the result of the study, there were several recommendations for future research. First, some of the limitation outlined in this study may be minimized or eliminated in a revised questionnaire, which can then be distributed among a bigger sample size. Males and elder generations can be more represented in the future studies. Also, some questions can be directly asked in either an interview or a survey to find out what the general audience thinks about the Danmu product itself. Second, to determine what specific improvement can alter the audience's

attitude towards TV Danmu, the same should be researched more. Third, the research on the possible methods of solving the Danmu's offensive content problem can be extended, especially on the technology side. This study did not discuss the technology and framework behind Danmu itself, so how Danmu can be diverted to the TV platform can be researched further in the future.

## **Conclusion**

Three conclusions can be drawn from this study. The first conclusion is that Danmu's frequent users have the chance to belong to television's missing demographic, those who are aged 18–24, are employed and bachelor-degree-holders. In addition to that, variety shows and animations would be the two genres the frequent users would be most interested in, in the television platform.

The second conclusion is that, generally, people have low willingness to see Danmu on the television platform because of the deficiency of cultural understanding. As an index with which to evaluate TV Danmu's possibility, audience's attitude leads to the conclusion that Danmu may not be suitable for wide television usage. Developing the depth of the customers might be more effective than expanding the width. The third conclusion is that the current Danmu product itself might have limited power to generate users' loyalty. TV Danmu might encounter the same problems unless the issues are addressed. But the study also indicated that educating and nudging customers with specific messages might help alter the situation.

Overall, the Danmu product's inherent limitations constrained its transformation to the television platform. At least currently, Danmu is not ready for a broader television usage yet. However, Danmu also showed its potentials with its user's bases. Hence, if Danmu is put on trial for television use in future, besides solving existing distraction- and offense-related problems, with



the new technology methods, educating and nudging audiences by sending specific messages may also be helpful to facilitate the process of its conversion.

## REFERENCES

- Airing, A. (n.d.). B 站 2000 万用户分析 [Analysis of Bilibili's 20 million users]. Retrieved 2016, from <http://www.jianshu.com/p/d79b8f01d2f7>
- Alexa. (2012). Bilibili .tv traffic Statistics [Data set]. Retrieved from <http://www.alexa.com/siteinfo/bilibili.tv>
- Amento, B., Harrison, C., & Nathan, M. (2009). Synchronous Communication: Fostering social interaction with CollaboraTV. In *Social interactive television: immersive shared experiences and perspectives* Cesar, P., Geerts, D., & Chorianopoulos, K.(Ed.) (pp. 202-221). Hershey, PA: Information Science Reference.
- Analysys. (n.d.). 中国弹幕内容专题研究报告 2015 [Chinese Danmu content market research report 2015]. Retrieved November 10, 2015, from <http://chuansong.me/n/1901773>
- B. (Ed.). (n.d.). 弹幕网站究竟有何魅力 [What is the magic of Danmu websites]. Retrieved June 18, 2016, from <http://m.v4.cc/News-1479808.html>
- Baer, J. (2015). The best teachers for influence marketing. Retrieved December 18, 2016, from <http://www.convinceandconvert.com/convince-convert/the-best-teachers-for-influence-marketing/>
- Bai, R., & Song, G. (2015). *Chinese television in the twenty-first century*. Routledge, New York, NY.

- Blake, M. (2014). The big bang of older TV viewers. *Los Angeles Times*, Retrieved December 17, 2016, from <http://www.latimes.com/entertainment/tv/showtracker/la-et-st-aging-tv-audience-20140223-story.html>
- Blaster, M. (2014). Cinemas in China let audience post comments onto the screen during the movies. Retrieved August 28, 2014, from <http://en.rocketnews24.com/2014/08/28/cinemas-in-china-let-audience-post-comments-onto-the-screen-during-the-movies/>
- Brooks Jr., Robert C. (1957), “‘Word-of-Mouth’ Advertising in Selling New Products,” *Journal of Marketing*, 22 (2)
- Brown, J. L., & Lee, T. (1998). *Youth and the global media* (S. Ralph, Ed.). Manchester: University of Luton Press.
- Ceber, M., Sharp, B., & Kennedy, R (2013). A closer look at Tv's desirable audience: The light TV Viewer. ANZMAC.
- Cesar, P., Geerts, D., & Chorianopoulos, K. (2009). *Social Interactive Television: Immersive Shared Experiences and Perspectives: Immersive Shared Experiences and Perspectives*. IGI Global.
- Chen, S, & He, T. (2014). 弹幕视频：小众网名的互动新形式 [Danmu video: A carnival for niche Internet users]. *China Academic Journal Electronic Publishing House*, 10.
- Chen, S., & He, T. (2014). 弹幕视频-小众网民互动新形式 [Danmu Video- New interacting model for niche Internet users]. *News World*, 6, 168-169.

- Chen. W. (2014). 中国动漫产业手机动漫的发展现状与前景[Interview with Weidong Chen: Chinese mobile animation industry current status and perspective]. Retrieved December 18, 2016, from <http://m.v4.cc/News-1926756.html>
- Chen. X. (2014). 弹幕话语构建的青年亚文化网络社群研究-以哔哩哔哩对 keyki 事件的反应为例[Study of Youth Sub Culture Of Network Community Barrage Discourse Construction—the Bilibili Network on Keyki Incident Response as an Example]. *Computer Knowledge and Technology*
- Chen. Y. (2013). 透视弹幕网站与弹幕族:一个青年亚文化视角[Study of bilibili and bilibili community: based on youth sub culture]. *Youth Exploration*
- China Internet Network Information Center. (2015). *Statistical report on Internet development in China* (Ser. 36, Rep.) Retrieved from :<https://www.cnnic.net.cn/hlwfzyj/hlwzxbg/hlwtjbg/201507/P020150723549500667087.pdf>
- China Youth Daily (2016). 弹幕从网络走进影院，会把电影“玩好”还是“玩坏”[Danmu technology walked into theater, is it doing “good” or “bad”] (2016, August 19). Retrieved from <http://m.sohu.com/n/403570957/http://m.sohu.com/n/403570957/>
- Cronton Data Center. (2016). 传统收视率榜单：2016 年 08 月 23 日电视剧 CSM52 & 35 卫视排行榜[Traditional rating report: August 23, 2016 daily drama CSM52 & 35 national TV ranking]. Retrieved 2016, from <http://weibo.com/ttarticle/p/show?id=2309404004715619849943>

Fo, X. (n.d.). Re: Why Acfun proceed lower ranking than Bilibili? [Web log comment].

Retrieved June 05, 2013.

Gao, H (2016). 前方高能！二次元世界向你敞开[Get ready! The animation world is waiting for you], *Beijing Youth Daily*

Gauntlett, D., & Hill, A. (1999). *TV living: Television, culture, and everyday life*. London: Routledge in association with the British Film Institute.

Go Fighting!. (2016, November 24). In *Wikipedia, The Free Encyclopedia*. Retrieved 02:47, November 24, 2016, from [https://en.wikipedia.org/w/index.php?title=Go\\_Fighting!&oldid=751212701](https://en.wikipedia.org/w/index.php?title=Go_Fighting!&oldid=751212701)

Gui, YH(2014), 弹幕网站：视频社交化[ Bullet curtain website: video socialized]. *Business Value*

Gupta, S., & Lehmann, D. R. (2006). Customer lifetime value and firm valuation. *Journal of Relationship Marketing*, 5(2-3), (pp. 87-110)

Hammer, P., & Green, T. (n.d.). *How light TV viewers respond to advertising* [PDF]. University of South Australia

Happy Camp (variety show). (2017, January 3). In *Wikipedia, The Free Encyclopedia*. Retrieved 02:02, January 3, 2017, from [https://en.wikipedia.org/w/index.php?title=Happy\\_Camp\\_\(variety\\_show\)&oldid=758029113](https://en.wikipedia.org/w/index.php?title=Happy_Camp_(variety_show)&oldid=758029113)

- Haque, S. (2015). 5 customer engagement strategies to improve retention. Retrieved December 18, 2016, from <http://www.ameyo.com/blog/5-customer-engagement-strategies-to-improve-retention>
- Harboe, G., Huang, E., & Massey, N. (2009). One team's discoveries from library to living room. *In Social interactive television: immersive shared experiences and perspectives* Cesar, P., Geerts, D., & Chorianopoulos, K.(Ed.) (pp. 158-186). Hershey, PA: Information Science Reference.
- He, M. (2016). *Database systems for advanced applications* (S. Navathe, Ed.). Dallas: DASFAA.
- Hu, PY. (2014). A Qualitative study of U.S. TV show success in China (Unpublished master's thesis). Southern Utah University, Cedar City, UT.
- Hu, ZF (2013). *电视美学概论：观众审美篇 [Introduction to TV aesthetics]*. Taipei: Independent & Unique.
- Huang, Y. (n.d.). 2016 上半年电视剧收视全解析 [2016 first half year drama rating report]. Retrieved 2016, from <http://weibo.com/ttarticle/p/show?id=2309404004715619849943>
- Hughes, B. M. (2015). Unemployed Americans watch 90 percent more TV than those with jobs. Retrieved September 03, 2016, from <http://www.mrctv.org/blog/unemployed-americans-watch-90-percent-more-tv-those-jobs>
- Hunan TV, News Department. (2014). Hunan TV official website [Press release]. Retrieved 2016, from <http://zixun.hunantv.com/hntv/20140408/0950337342.html>

- IMA. (2014). Retrieved August 12, 2016, from <http://ima.nyu.sh/media-and-participation/2014/10/04/bullet-comments-of-bilibili/>
- Informa Telecoms & Media. (2013, September 21). Netflix churn rate roughly 9%, says Parks Associates. *DigitalTV.net*. Retrieved from <http://www.digitaltveurope.net/406031/netflix-churn-rate-roughly-9-says-parks-associates/>
- Irons, J. (2009). Economic scarring: The long-term impacts of the recession. Retrieved September 30, 2016, from <http://www.epi.org/publication/bp243/>
- Italian Trade Commission. (2011). *China television industry market report*. Retrieved June 3, 2011, from <http://www.ice.it/paesi/asia/cina/upload/174/CHINA%20TELEVISION%20INDUSTRY%20MARKET%20REPORT%202011.pdf>
- Jenkins, H., Ford, S., & Green, J. (1992). *Spreadable media: creating value and meaning in a networked culture*. New York: New York University Press.
- Ji, J. (n.d.). Bilibili 产品分析报告：二次元网站的流量变现参考 [Bilibili Product Analysis: How to cash in animation related websites]. Retrieved July 12, 2016, from <http://www.jianshu.com/p/2a9a17a13d5c>
- Jiang, HX. (2014). *传播学视域中的弹幕视频研究 [The research of barrage video from communication vision]*. Unpublished master's thesis, Central China Normal University, China

- Jie Luo (2016). 向年轻一代争宠：弹幕鼻祖的抱负[Getting the younger generation: What the founders of Danmu wanted]. Retrieved July 14, 2016, from <http://www.infzm.com/content/117599>
- Keiningham T. (2007). *The value of different customer satisfaction and loyalty metrics in predicting customer retention, recommendation, and share-of-wallet* [PDF]. Bingley: Emerald Group Publishing Limited. DOI 10.1108/09604520710760526
- Ken-ichi, Y. (2013). *Market competition in the animation industry between Japan and China: How to face China's rising interest in promoting domestically-produced animation. NHK broadcasting culture research institute*. Retrieved from [https://www.nhk.or.jp/bunken/english/reports/pdf/report\\_13020101.pdf](https://www.nhk.or.jp/bunken/english/reports/pdf/report_13020101.pdf).
- Kops, M. (2007). *Internationalization of the Chinese TV sector*. Berlin: Lit.
- Lahart, J. & Zhao, E (2010). What would you do with an extra hour: Americans are spending more time watching TV and sleeping as unemployment rises, survey find. *The Wall Street Journal*. Retrieved from <http://www.wsj.com/articles/SB10001424052748704853404575323142078418532>
- Levesque, J. (2009). TV stations turn to social media to attract viewers: KCPQ/13 uses Twitter to promote news programming. Retrieved from <http://www.seattlepi.com/ae/tv/article/TV-stations-turn-to-social-media-to-attract-890303.php>



- Li, L. (2013). Chinese television between the state and the market: an analysis of the business reality show *Win in China*. *SAGE journals*. Retrieved from <http://journals.sagepub.com/doi/full/10.1177/0163443713495509>
- Li, X. (n.d.). China's video streaming sites embrace "bullet screens". Retrieved April 29, 2016, from <http://www.sixthtone.com/news/chinas-video-streaming-sites-embrace-%E2%80%98bullet-screens%E2%80%99>
- Limandemi (2015). Have you ever heard of "Danmu"? Retrieved October 05, 2016, from <http://www.sixthtone.com/news/chinas-video-streaming-sites-embrace-%E2%80%98bullet-screens%E2%80%99>
- Liu, L. (2016) AcFun VS Bilibili 二次元产品深度解剖 [AcFun VS Bilibili: Animation product analysis]. Retrieved June 10, 2016, from: <http://weibo.com/ttarticle/p/show?id=2309403984742692319343>.
- Lunden, I. (2012). Nielsen: Women watch more TV than men, but connected games consoles are changing that. Retrieved December 17, 2016, from <https://techcrunch.com/2012/10/05/nielsen-gaming-tv-console/>
- Lupis, J. (Ed.). (n.d.). The state of traditional TV: Q2 2016 update. Retrieved October 05, 2016, from <http://www.marketingcharts.com/television/are-young-people-watching-less-tv-24817/>
- Lv. SS. (2016). 2015 年收视市场盘点：内容市场的竞争与博弈 [Rating for 2015: Content market's competitions]. Retrieved 2016, from <http://weibo.com/ttarticle/p/show?id=2309404004715619849943>

- Ma, YF. (2015). 从亚文化及群体心理探析弹幕功能的粘性 [Analysis of Danmu functions' stickiness: From sub-cultural point of view]. *Modern Audio-Video Arts*, 4, 78-80.
- Ma, Z., & Ge, J. (2014). 日本动画弹幕分析：一种准社会交往视角[Analysis of Japanese animation's overlaid comment (danmu): A perspective of parasocial interaction]. *China Academic Journal Electronic Publishing House*.
- MacWilliams, M. W. (2008). *Japanese visual culture: explorations in the world of manga and anime*. Armonk, NY: M.E. Sharpe.
- Mikitani, H., & Mikitani, R. (2014). *The power to compete: An economist and an entrepreneur on revitalizing Japan in the global economy*. John Wiley & Sons, Hoboken, New Jersey.
- Mo, J. (2011). 高学历观众收视行为特点分析 [Higher educated audience' behavior analysis]. Retrieved July 11, 2016, from <http://media.people.com.cn/GB/22114/70684/220352/14537505.html>
- Napoli, Philip M. (2011). *Audience evolution : new technologies and the transformation of media audiences* (pp. 90-91). Columbia University Press. New York.
- Nielsen Social Report. (2016). Social content weekly top ten. Retrieved from <http://www.nielsensocial.com/socialcontentratings/weekly/>
- O'Connell, S (2014). Some movie theaters will allow text messages to appear on the screen - CINEMABLEND. Retrieved December 18, 2016, from

<http://www.cinemablend.com/new/Some-Movie-Theaters-Allow-Text-Messages-Appear-Screen-66845.html>

Okamoto, T. (2014). Otaku tourism and the anime pilgrimage phenomenon in Japan. *Japan Forum*, 27(1), 12-36. doi:10.1080/09555803.2014.962565

Patton, T. (2015). 3 Reasons Why Word-of-Mouth Marketing is Important For Your Brand. Retrieved December 18, 2016, from <https://www.getambassador.com/blog/3-reasons-why-word-of-mouth-marketing-is-important-for-your-brand>

Pew Research Center. (2012). *Demographic and political views of news audiences, section 4*. Retrieved September 27, 2012, from <http://www.people-press.org/2012/09/27/section-4-demographics-and-political-views-of-news-audiences/>

Poniewozik, J. (2011). Women watch TV like this, but men watch TV like this. Retrieved December 17, 2016, from <http://entertainment.time.com/2011/10/06/women-watch-tv-like-this-but-men-watch-tv-like-this/>

Qin, A. (2016). China cracking down on children on reality TV. Retrieved April 18, 2016, from [http://artsbeat.blogs.nytimes.com/2016/04/18/china-cracking-down-on-children-on-reality-tv/?\\_r=1](http://artsbeat.blogs.nytimes.com/2016/04/18/china-cracking-down-on-children-on-reality-tv/?_r=1)

Ralph, S. (1999). *Youth and the global media: papers from the 29th University of Manchester Broadcasting Symposium, 1998*. Luton, Bedfordhsire, United Kingdom: University of Luton Press.

Ramshaw, A. (n.d.). The only 3 strategies that increase customer value.[Web log post].

Retrieved from <https://www.genroe.com/blog/the-only-3-strategies-that-increase-customer-value> of blog post

Ranaweera, C., & Prabhu, J. (2003). The influence of satisfaction, trust and switching barriers on customer retention in a continuous purchasing setting, *International Journal of Service Industry Management*, Vol. 14, (pp.374 – 395)

Regan, T., & Todd, I. (2004a). *Media Center Bud- dies: Instant Messaging Around a Media Center* (Technical Report MSR-TR-2004-47). Redmond, WA: Microsoft Research.

Retrieved September 5, 2008, from <ftp://ftp.research.microsoft.com/pub/tr/TR-2004-47.pdf>

Regan, T., & Todd, I. (2004b). Media Center Bud- dies: Instant Messaging Around a Media Center. In *Proceedings of the Third Nordic Conference on Human-Computer interaction* (pp. 141–144). New York: ACM Press.

Reichheld, F., & Sasser, W. E., Jr. (1990). Zero Defections: Quality Comes to Services.

Retrieved December 18, 2016, from <https://hbr.org/1990/09/zero-defections-quality-comes-to-services>

Reinartz, Werner and V. Kumar (2000), “On the Profitability of Long-Life Customers in a Noncontractual Setting: An Empirical Investigation and Implications for Marketing,” *Journal of Marketing*, 64 (October), 17-3.

- Robb, A. (n.d.). Customer loyalty: Why its important. Retrieved March 18, 2015, from <http://www.the-marketing-mentor.com/blog/customer-loyalty-why-it%E2%80%99s-important>
- Sandomir, R. (n.d.). To lure younger fans, PGA tour will offer a TV network online. Retrieved February 10, 2015, from [http://www.nytimes.com/2015/02/11/sports/golf/pga-tour-creating-online-network-to-engage-younger-fans.html?\\_r=1](http://www.nytimes.com/2015/02/11/sports/golf/pga-tour-creating-online-network-to-engage-younger-fans.html?_r=1)
- Scott, R. (2014). Onscreen text message appear in Chinese movie theaters. Retrieved August 21, 2016, from <http://www.etcentric.org/onscreen-text-messages-appear-in-chinese-movie-theaters/>
- Shaw, B. (2009). Entertainment & engagement part 1: Reality TV. *echo*. Retrieved from <https://echo.co/blog/entertainment-engagement-part-1-reality-tv>
- Shen, S. (2014). 导演沈乐平回应“弹幕”被批：符合“90”后意愿 [Director Leping Shen respond to the criticism of Danmu: It fit 90's generation willing], Retrieved from November 12, 2016, from <http://www.chinanews.com/yl/2014/08-11/6478725.shtml>
- Sohu.com. (2016). B 站董事长陈瑞：B 站为何深受年轻人喜爱[Interview with Rui Chen, the Executive Director of Bilibili: Why young generation like Bilibili]. Retrieved December 18, 2016, from <http://mt.sohu.com/20160924/n469087098.shtml>
- Song, Y. (2016), 二次元世界的“庶众狂欢”：弹幕文化在中国 [Manga world's revelry: Danmu in China], Retrieved from November 12, 2016, from <http://www.infzm.com/content/117600>

Sternberg, S. (2015). Will all tv media age soon be over 50? Retrieved April 30, 2016, from <http://www.mediapost.com/publications/article/248728/will-all-tv-median-ages-soon-be-over-50.html?edition=>

Teixeira, T. S. (2014). The rising cost of consumer attention: why you should care, and what you can do about it. Retrieved December 18, 2016, from <http://hbswk.hbs.edu/item/the-rising-cost-of-consumer-attention-why-you-should-care-and-what-you-can-do-about-it>

Tech.qq (2014). 湖南卫视引入“弹幕”直播，全面拥抱互联网[Hunan TV might introduced Danmu on Live programming, hugging the Internet]. Retrieved July 12, 2016, from <http://tech.qq.com/a/20141012/008165.htm>

Theaters in China screen movies and text messages from viewers' mobile phones - NDTV. (2014). Retrieved December 18, 2016, from <http://profit.ndtv.com/news/global-economy/article-theaters-in-china-screen-movies-and-text-messages-from-viewers-mobile-phones-653370>

Tonghuashun Finance. (2016). 2016 年中国动漫产业发展现状分析及趋势前景预测[2016 Chinese animation industry development perspective]. Retrieved 2016, from <http://weibo.com/ttarticle/p/show?id=2309404004715619849943>

Traynor, D. (n.d.). The most effective message we see in Intercom either educate or persuade customers. Let's talk about why they work [Web log post]. Retrieved from <https://blog.intercom.com/how-to-educate-persuade-customers/> of blog post

Tsekouras, D., & Dellaert, B. (n.d.). Get more than you expected on Bilibili [Web log post].

Retrieved February 29, 2016, from <https://consumervaluecreation.com/2016/02/29/get-more-than-you-expected-on-bilibili/>

TvTV.hk (2016), 2016 年 7 月 24 号电视台收视率排行榜 [July 24th, 2016 rating ranking],

Retrieved from November 12, 2016, from <http://www.tvTV.hk/archives/4023.html>

U.S. Department of Labor. (2016). *American time use survey-2015* [News release]. Retrieved

<https://www.bls.gov/news.release/pdf/atus.pdf>

*Viggle: Crafting an identity for cinematic discovery and innovation* (n.d.). Retrieved from

<http://www.method.com/work/viggle>

Wang, F. (2014). 让弹幕飞：视频也疯狂[Let bullet curtain website “fly”]. *Shanghai Informatization*.10.

Webster, J. G., Phalen, P. F., & Lichty, L. W. (2006). *Ratings analysis: audience measurement and analytics*. New York, NY: Routledge.

Weisz, J. D., & Kiesler, S. (2008). How Text and Audio Chat Change the Online Video Experience. In *Proceedings of UXTV 2008*, in press.

Wu, D.(2012). Danmu video: A cute social multimedia [Web log post]. Retrieved April 29,

2012, from <https://consumervaluecreation.com/2016/02/29/get-more-than-you-expected-on-bilibili/>

Xie, M. (2013). 大众传播游戏理论视角下的弹幕视频研究[Study of bullet curtain based on mass communication play theory]. *Press Circles*

- Yang, M. (2007). *中国动漫产业存在的主要问题及对策研究 [Analysis on the status quo of Chinese animation industry and strategy study]*. Unpublished master's thesis, East China Normal University, China
- Yu. Y. (2016). 专访 Bilibili 游戏事业部副总经理于杨：二次元用户是有信仰的群体 [Interview with Yang Yu, the Executive Director of Bilibili Game department: Animation fans have their own believes]. Retrieved December 18, 2016, from <http://m.v4.cc/News-1926756.html>
- Zhan, M. (2014). 浅谈弹幕视频网站在我国的发展 [Development of barrage of video website in China], *Popular Science & Technology*, 10.
- Zhang, C,& Chang, X. (2014). 浅谈弹幕对大众传播模式的革新与影响 [Discussion of how Danmu might alter the model of mass communication]. *Dongnan Chuanbo*. DOI:10.13556/j.cnki.dncb.cn35-1274/j.2014.12.004
- Zhang, R. (2013). Happy Camp: The popularity of variety shows in China. Retrieved December 18, 2016, from <https://ccpc.asian.lsa.umich.edu/happy-camp-the-popularity-of-variety-shows-in-china/>
- Zhou, T., & Zhang, X. (2015). College students' online video websites research. *News World*, 5, 172-173.
- Zipin, D. (2016). How the TV advertising industry works. Retrieved December 18, 2016, from <http://www.investopedia.com/articles/investing/100615/how-tv-advertising-industry-works.asp>



Zhang, Y. (2012). *A companion to Chinese Cinema*. Wiley-Blackwell, New Jersey, NJ.

## APPENDIX A: DANMU USER SURVEY

**Danmu** is a commentary sharing system in which viewers can plaster comments directly on top of an uploaded video. Bilibili, Acfun are two of the most popular Danmu website in China.



A barrage of danmu comments scrolling across an online video clip

1. Gender: Female      Male      No Comments
2. Have you used Danmu websites (Commentary Video websites like Bilibili, and Acfun) before?  
No      Yes
3. -If Yes, How many times you have used it in the past one month?  
everyday      3-4 /week      1-2/week      less than 1/week
4. Indicate the extent to which you agree with the following statement.
  - a. Comments distracted my attention away from the video content.  
Disagree Strongly   1   2   3   4   5   6   7   Agree Strongly
  - b. Comments helped me notice something that I couldn't notice by myself

Disagree Strongly 1 2 3 4 5 6 7 Agree Strongly

- c. Watching commentary video made me feel that I am watching with other people.

Disagree Strongly 1 2 3 4 5 6 7 Agree Strongly

- d. I enjoy sharing my feelings with others through Danmu

Disagree Strongly 1 2 3 4 5 6 7 Agree Strongly

- e. Some comments were interesting

Disagree Strongly 1 2 3 4 5 6 7 Agree Strongly

- f. Some comments were offensive.

Disagree Strongly 1 2 3 4 5 6 7 Agree Strongly

5. How likely you will recommend Danmu to others?

Extremely Unlike 1 2 3 4 5 6 7 Extremely Like

6. How many times you think you will use Danmu in the following week?

Less than 1 hour/day 1-2 hours/day 3-4hours/day over 4 hours/day

7. How long do you watch TV/ TV shows everyday ?

Less than 1 hour/day 1-2 hours/day 3-4hours/day over 4 hours/day

8. Please rank the following TV genres from most favored to least favored.

Drama/Comedy Reality Show Animation News Sports Chinese traditional Opera

9. How likely you want to have Danmu on the screen when you watching TV in future?

Extremely Unlike 1 2 3 4 5 6 7 Extremely Like

10. Age: What is your age?

- Under 12 years old
- 12-17 years old
- 18-24 years old

- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55 years or older

11. Education: What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.

- No diploma completed
- High school graduate, diploma or the equivalent (for example: GED)
- Trade/technical/vocational training
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

12. Employment Status: Are you currently...?

- Self-employed
- Out of work but not currently looking for work
- Out of work and looking for work
- Employed for wages
- A student
- Military

- Retired

13. Explain what it is you most like about Danmu?

---

What do you most dislike?

---

Thank you for taking time out to participate in our survey. We truly value the information you have provided. If applicable, please leave your email for us to follow up.

Email: \_\_\_\_\_